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Volume 79
Number 4
April 2011
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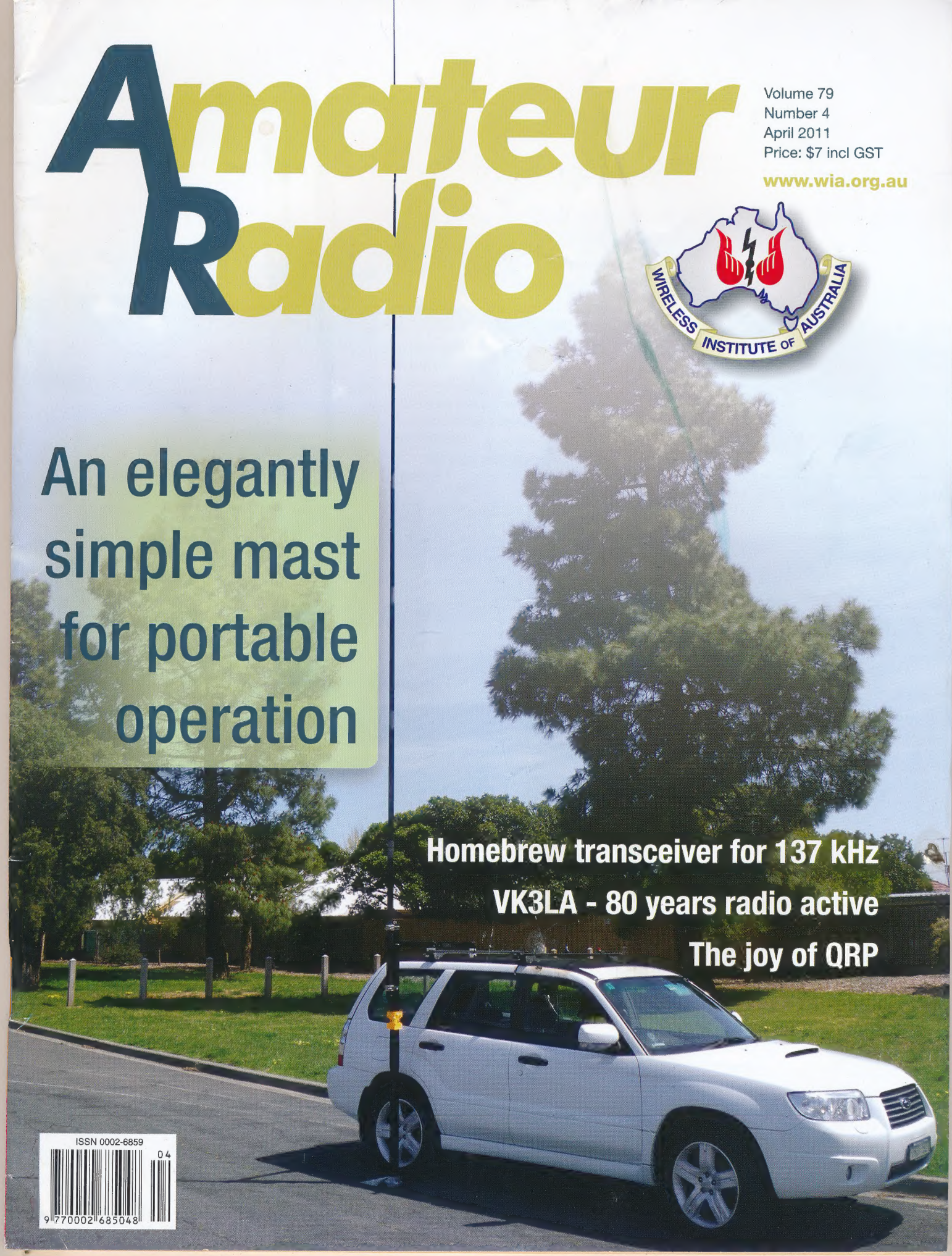

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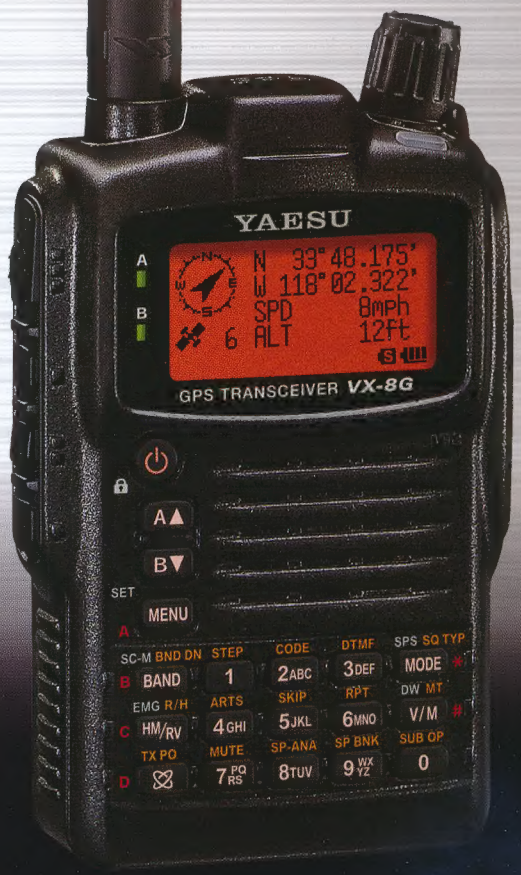

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Amateur Radio

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Editorial

Editor
Peter Freeman VK3PF
editor-armag@wia.org.au

Technical Editor
Peter Gibson VK3AZL

Publications committee
Don Jackson VK3DBB
Evan Jarman VK3ANI
Bill Roper VK3BR
Ewen Templeton VK3OW
Ernie Walls VK3FM
Greg Williams VK3VT

All circulation matters
nationaloffice@wia.org.au

How to submit material
Secretary
AR Publications Committee
PO Box 2042
BAYSWATER VIC 3153
or *armag@wia.org.au*

Columns and letters to Editor
Editor AR Magazine
PO Box 273
Churchill Vic 3842
or *editor-armag@wia.org.au*

Hamads
'Hamads'
PO Box 2042
BAYSWATER VIC 3153
hamads@wia.org.au

Advertising
All enquiries to
Advertising Manager
AR Publications Committee
PO Box 2042
BAYSWATER VIC 3153
or *admanager@wia.org.au*

Registered Office
Unit 20 11-13 Havelock Road
BAYSWATER VIC 3153
Australia
Phone: 03 9729 0400
Fax: 03 9729 7325

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Cover photo

Our cover this month shows the elegant mast system developed and built by Rik VK3KAN. Some parts from a large hardware outlet together with a Squid pole and other low cost components produce a light weight yet versatile mast system suitable for portable operations.
Photo by Rik Head VK3KAN.

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are welcome and will be considered for publication. Articles attached to email are especially welcome. The WIA cannot be responsible for loss or damage to any material. Information on house style is available from the Editor.

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Disclaimer
The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Unit 20, 11-13 Havelock Road
Bayswater, Victoria, 3153
Tel: (03) 9729 0400 Fax (03) 9729 7325
email: nationaloffice@wia.org.au
http://www.wia.org.au

All mail to

PO Box 2042 BAYSWATER VIC 3153

Business hours: 10am – 4pm weekdays

National Office staff

Manager	Mal Brooks VK3FDSL
Administration Officer	Margaret Williams
Examination Officer	Dianne Ashton VK3FDIZ

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Editorial

Peter Freeman VK3PF

An electronic AR?

From time to time I am asked the question: Can I receive *Amateur Radio* in electronic format?

Clearly, this message has also been received by the WIA Board. As a result, the Publications Committee discussed this issue at its March meeting.

From the comments received over a period of time, and included in the discussion at the meeting, it is clear that some individuals think that receiving the magazine in an electronic format (such as Adobe Acrobat® format) will mean that the individual will have to pay less for their WIA membership.

However, everyone needs to consider all of the steps required for the magazine to appear each month. Whilst most of the required work is done by volunteers, the major costs of production fall into two categories. Firstly, there is the cost of the layout (typesetting) of the magazine, which represents about two thirds of the productions cost. The remaining third is the printing costs. Then we need to add the costs of packaging and posting the magazine. All members will be able to see these costs if they read the financial reports included in last month's issue. Yes, we also need to add a small honorarium and expenses amount that I receive for my contributions. To offset these costs, we have some advertising income together with a small amount from Club and direct subscriptions.

All members can calculate the production costs and income if they examine the financial statement. But is this the whole story?

The reality is that the main component of the productions costs will not change if we produce less printed copies. This is due to two fundamentals: the typesetting costs are the same, regardless of how many hard copies are made, and the marginal cost advantage of reducing the print run by say 1000 copies is very small, as to simply print a single copy incurs significant set up charges. As long as we need to print physical copies, we cannot gain any significant cost savings in production.

The place where some small savings could be made is in postage – a smaller number of magazines posted would reduce the postage costs, but only by a small amount.

There are other factors to consider, including the benefit to our hobby overall by having the hard copy magazine appearing each month on news stands around the nation. These copies bring some income, at a small marginal cost. However the benefits are difficult to assess in dollar terms. In addition, there is the publicity value of having past issues available to give away to new members when they join the WIA.

After considerable discussion, the Publications Committee resolved to recommend to the Board that electronic copies of *AR* not be made available to members on a monthly basis, at this time. However it did recommend a move to produce an annual compilation in electronic format, to be made available after the December issue is published in each calendar year, commencing with the 2011 volume. We have yet to decide the mechanics of the distribution of this electronic version. It might be in the form of a CD or DVD available for purchase through the WIA Bookshop, in a manner similar to the ARRL and RSGB.

I am scribing these notes before these issues have been considered by the Board, so no firm decision has yet been reached.

Cumulative Index

One project that has been going on in the background for the past two or three years is the collation of a cumulative index of major articles in *AR*. This work has been undertaken in recent years by Don VK3DBB. We have also benefitted from the work of others, who have collated partial indices of past editions and who have placed those indices on the web for public access. Don is continuing his work and we anticipate that we will be able to make the cumulative indices available to members and others at some time later this year. Once again, no decision has been made at this time regarding the method/s to be used for access.

Sign off

The teaching year started recently, so I have been very busy with work. Apart from getting out for the Summer VHF/UHF Field Day and a couple of other occasions to play microwaves, I have not progressed very far with the major tasks at home. Hopefully I can find the time and energy to get the mast erection project progressed in the near future.

Cheers,

Peter VK3PF

WIA comment

Michael Owen VK3KI

The ACMA needs some appropriate policies?

The WIA believes that the Australian regulator, the Australian Communications and Media Authority (ACMA) should enforce the law affecting the amateur service. There have been far too many complaints of deliberate interference or improper behaviour for us to take any other position.

However, what is the law and how it is enforced has recently become the subject of some discussion, with some allegations that must concern us, in particular in relation to the question of the possession of equipment by amateurs and in relation to the inspection of amateur stations.

The primary offence is the unlicensed operation of "radiocommunication devices" which is section 46 of the *Radiocommunications Act.*

Let us ignore the extended definition of radiocommunications devices in this Comment and while a radiocommunications device may be a receiver, let us simply talk of "transmitters", which is really all that is immediately relevant.

The problem appears to have arisen because section 47 provides as follows: "... a person must not have a radiocommunications device in his or her possession for the purpose of operating the device otherwise than as authorised by: (a) a spectrum licence; or (b) an apparatus licence; or (c) a class licence."

Note the vitally important words "possession ***for the purpose of*** operating the device otherwise than as authorised by" a licence, that is, for the purpose of causing a transmitter to transmit.

Subsection (1) of section 48 then sets out a number of rebuttable presumptions. That is, the section sets out a number of situations where a person may be taken to have the transmitter in his or her possession for the unlawful purpose if the transmitter can be operated merely by doing one of a number of things, for example by connecting the transmitter to a power supply by a plug, connecting a microphone or switching the transmitter on or connecting it to an antenna and so on.

However, subsection (2) of section 48 says that subsection (1) "only applies in the absence of any evidence to the contrary."

The WIA believes that if the person having possession of the transmitter holds an amateur licence, that is sufficient evidence to rebut the presumptions in subsection (1) of section 48.

Some other evidence must exist to show that the possession was for the purpose of operating the device other than as authorised by the amateur licence.

Any other position must be nonsense.

First of all, only a qualified operator, that is someone holding a certificate of proficiency, can hold an amateur licence.

Then a Standard or Advanced (but not Foundation) licensee may design, construct and operate a transmitter.

And how many of the older amateurs recall buying "disposals" equipment and converting it to amateur bands?

Any other view makes almost every HF transmitter owned by amateurs in this country illegally possessed. Let me give just one example. The Amateur LCD provides that the Advanced licensee may operate on the bands 3.500 MHz–3.700 MHz and 3.776 MHz–3.800 MHz Does your equipment allow you to operate between 3.700 MHz and 3.776.MHz?

Of course it does.

Any other position is simply ignoring the whole purpose and history of the amateur service.

What has the WIA done about it?

In accordance with the *Freedom of Information Act*, the WIA requested the ACMA to provide copies of any "document or documents disclosing the policy of ACMA in relation to the transmitting equipment authorised to be possessed by a licensee in the amateur service."

The ACMA has responded by a Notice of Decision under section 26 of the *Freedom of Information Act,* and to our surprise, in a four page letter, advises that despite "extensive searches" no such document exists!

Because of the anecdotal evidence of amateurs feeling concerned at the way ACMA officers have sought to inspect stations, in our FOI application we also sought copies of any "document or documents disclosing the ACMA policy or operational procedures relating to the inspection of stations in the amateur service."

The WIA accepts that many people will feel obliged to comply with the request of an ACMA officer to allow him immediate access to the station, no matter how courteous the officer is. The WIA suggests that an amateur is perfectly entitled to decline admission if it is inconvenient and make an appointment with the officer for a more convenient time.

Continued on page 5

WIA news

New WIA Secretary

The WIA has announced the resignation of Geoff Atkinson VK3TL as WIA Secretary and the appointment of Sarah Thompson VK3AUD as the new Secretary.

Geoff Atkinson has been WIA Secretary since February 2008.

He became Secretary replacing Ken Fuller, who had taken the position on a temporary basis on the death of Chris Jones. Geoff has played a very important role as Secretary, in particular in relation to finding the WIA's current building, negotiating the lease and ultimately its purchase. Geoff is a totally practical person, and has done much in organising the building, organising the inwards distribution of QSL cards, setting up WIA stands at hamfests and the like.

WIA President Michael Owen said that he very much regretted the resignation of Geoff who has been forced to resign as WIA Secretary because he believes that his health no longer allows him the time to do the job to the level he believes is necessary. "Geoff assures me he will still be able to contribute, looking after the inwards QSLs, and will continue as a regular visitor to the office. I would like to record my very personal gratitude to Geoff, whose views and contribution I have valued greatly."

The new WIA secretary Sarah Thompson VK3AUD recently retired from Telstra, at a senior technical position at the IP Networks, Global Operations Centre at Clayton, after many years with Telstra. In 1977 she spent a year with the Antarctic Division as a Radio Officer at Macquarie Island.

Sarah Thompson VK3AUD

She is currently Secretary of the Moorabbin and District Radio Club, and among her many interests she is a certified Marriage Celebrant, a member of the RSL, holds a current St John Senior First Aid certificate and is a Black Belt in Taekwondo.

The WIA Board believes that her experience in Telstra and her various interests, well fit her for the task. Members will be able to meet Sarah at the WIA Annual Conference in Darwin.

WIA Extends Emergency Communications Training

Following the success of the first series of courses, and with almost 100 people registered for future training, the WIA has extended its Emergency Communications Operator Training Scheme to all Australian licensed radio amateurs.

The non-refundable fee payable for undertaking the WIA Emergency Communications Training is:

- WIA Member $30.00 inc. GST
- Non-WIA Member $65.00 inc. GST

The difference is because the WIA is recovering the full cost of the training from non-WIA members but subsidising member's participation.

Non-WIA members will be given a non-voting temporary membership of the WIA from the commencement of training for a period of six months.

As temporary members they will receive six issues of *Amateur Radio* magazine and will be eligible for all other WIA member services and discounts. Temporary members will not be eligible for accreditation as WIA Volunteer Communications Operators. Temporary membership will cease on the last day of the seventh month after the month in which the temporary membership commenced.

Temporary membership may be converted to ordinary membership at any time by completing the application for ordinary membership and paying the membership fee. Any unexpired period of temporary membership at the time of application for ordinary membership shall be credited as additional time as an ordinary member.

WIA Vice President Phil Wait VK2ASD, the WIA Director responsible for Emergency Communications, explained the reasons for the WIA giving temporary membership to participants in WIA Emergency Communications Training. He said "We have two reasons for doing this; firstly, temporary membership gives us the opportunity to mail copies of *AR* magazine and provide other member services that hopefully will encourage the temporary member to upgrade to full membership on the expiry of the 6-month period. In other words, we are using this as an opportunity to identify active amateurs and to promote the WIA to them.

Secondly, WIA membership simplifies and clarifies the issue of insurance. No issue arises as to whether one candidate has different insurance cover than another candidate during the training. The WIA will include these temporary members in its membership for premium calculation purposes."

All WIA affiliated clubs who meet minimum requirements for numbers, and who have access to a suitable venue and accredited trainers, can apply for a group training event. Interested clubs should phone the WIA office for more information. The standard registration fees apply for each trainee. The WIA reserves the right to insert other trainees into such events if excess capacity exists. Further information about the WIA's Emergency Communications Training, dates and venues, and on-line application and payment form is available on the WIA website.

The training and accreditation scheme is a two part process - Training and Accreditation. Persons who have completed the training course and who are assessed as competent can then apply for WIA accreditation as a WIA Volunteer Communications Operator (VCO). Accreditation is not an automatic process, and only those who meet certain criteria for health and availability will be accredited.

WIA comment

Continued from page 3

An inspector may obtain a search warrant from a magistrate if he can produce evidence of an offence and an inspector has extensive powers of entry to control transmitters interfering with safety and other services without a warrant.

For an ordinary inspection without any underlying criminality we see no reason for an inspector under the Radiocommunications Act not behaving like other agencies such as the Australian Taxation Office, and making an appointment with the licensee by a simple telephone call.

And that is particularly important in the case of amateur licensees under the age of 18, as we cannot imagine the ACMA approving an officer seeking to inspect a station otherwise than in the presence of a parent or guardian.

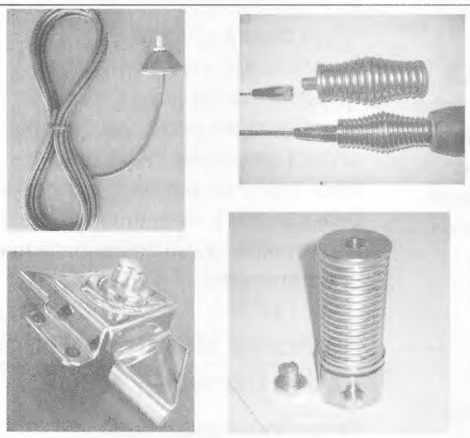
But, again to our surprise, the ACMA response to our FOI request was that despite "extensive searches" no such policy or operational procedures exist!

We also have been told that ACMA officers have purported to direct the licensee to dispose of equipment said to be possessed in contravention of section 47. We have not been able to find any statutory basis in law for such a direction.

The WIA is of the opinion that clear and appropriate policies must be formulated in respect of all of the matters I have raised, including policies that recognise an amateur's right to possess any transmitting equipment and relying on a breach of licence conditions for any improper conduct and ordinarily requiring an inspector to make a mutually convenient appointment for station inspections with such inspections, only taking place in the presence of a parent or guardian in case of licensees under 18, and those policies must be easily accessible for all amateurs.

The WIA has approached the ACMA accordingly.

TET-EMTRON



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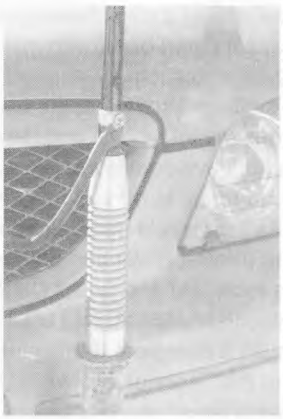


New ATW3040 HF + 6 metre Whip. Designed to be used with an Auto tuner (like the AH-4 or SG-237) for maximum efficiency. Made of fibreglass and coated with a tough flexible glass finish. See the website or ring for more details.

A transceiver for 137 kHz

Dale Hughes VK1DSH

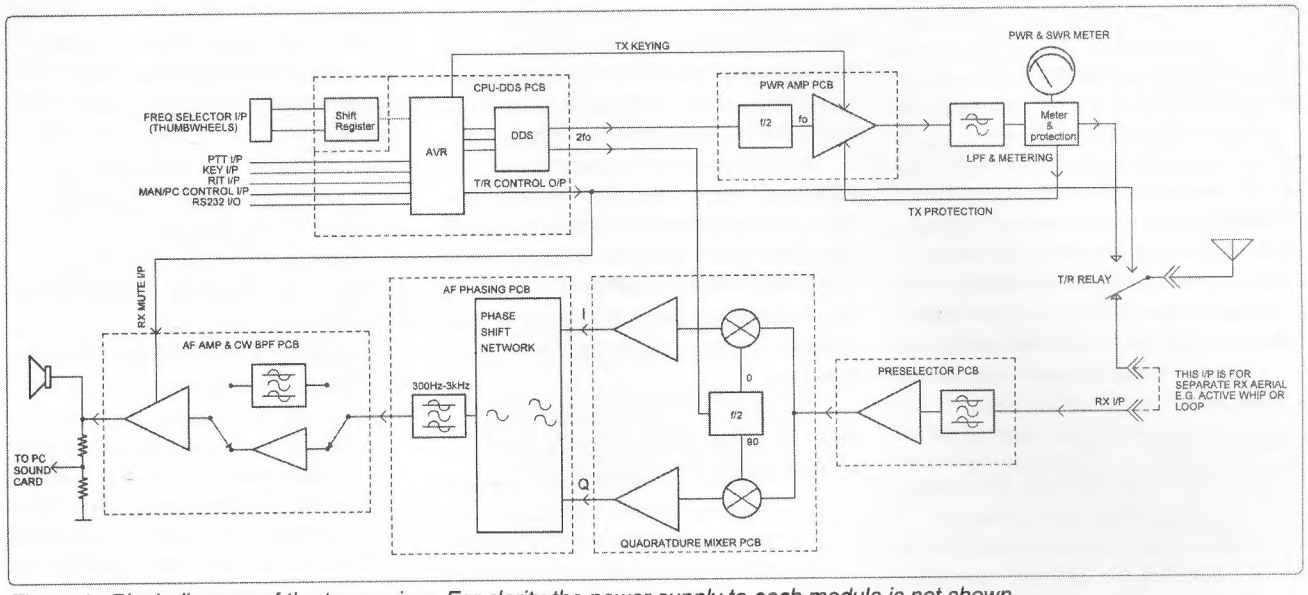


Figure 1: Block diagram of the transceiver. For clarity the power supply to each module is not shown.

This article describes a transceiver for use on the low frequency band that was recently allocated to Australian amateur operators. This band has a number of peculiarities when compared to other amateur bands:

1. The band is only 2.1 kHz wide covering 135.7 kHz to 137.8 kHz. This limits transmission modes to a variety of narrow band digital modes, with some form of Morse code being the most popular at present.
2. Radiated power is restricted to one watt EIRP. This is not much of a restriction, given the typical inefficiency of any antenna that most amateurs are likely to erect; even radiating a few tens of milliwatts is a challenge.
3. Local and atmospheric noise levels are very high, particularly in summer. The ability to receive signals is generally limited by noise rather than receiver sensitivity.
4. Very little commercial equipment is available that can be directly used on the band, thus 'home brew' equipment still reigns supreme. A typical setup might be a transverter based around a standard HF transceiver, with a substantial homebuilt power amplifier to overcome antenna inefficiency. Less common is the construction of a complete transceiver.

Despite all of these challenges, it is a fascinating band with many enjoyable aspects. Reasonable DX contacts can be had using one of the various digital modes and reliable ground wave communications can extend many hundreds of kilometres.

As I have had good experiences using direct-conversion phasing type receivers and Direct Digital Synthesiser oscillators, I chose to build a complete transceiver using that technology. Previous projects using phasing techniques (References 1 and 2) provided suitable circuit modules that could be duplicated for use in the receiver and transmitter, leaving only a number of modules to be designed 'from scratch'. The following pages will describe each major section of the unit. Figure 1 shows the block diagram of the transceiver with each of the major modules shown within dashed lines. Exact inter-connection details have been omitted and it is hoped that the connections between modules are self-explanatory.

There is quite a lot of information regarding the 137 kHz band available. The RSGB has published an excellent book (Reference 3) which covers all aspects of LF operation and equipment. It is essential reading if you intend to operate on the band. Many of the circuits described in this article were based on previously published designs which were then adapted and modified to suit local availability of components.

Features and description of the transceiver

Frequency range

135.700 kHz to 137.800 kHz. Operating frequency is set using 'thumbwheel' switches and the minimum adjustment step is one Hz. Frequency stability is approximately 2.5 parts per million and this is an important aspect to consider for the QRSS modes as the bandwidths

used are only a fraction of a Hertz, so the ability to accurately set your frequency – and to stay on it – is vital if a contact is to be successful.

Transmitter

A push-pull class D design with a maximum continuous output power of 220 watts into a 50 ohm load. A five pole low pass filter ensures a clean RF output. A front panel meter shows RF output current and forward and reflected power.

Receiver

An 'image reject' direct conversion design which offers low noise with excellent dynamic range. No AGC is provided and it appears unnecessary, particularly when using the QRSS modes.

Operating modes

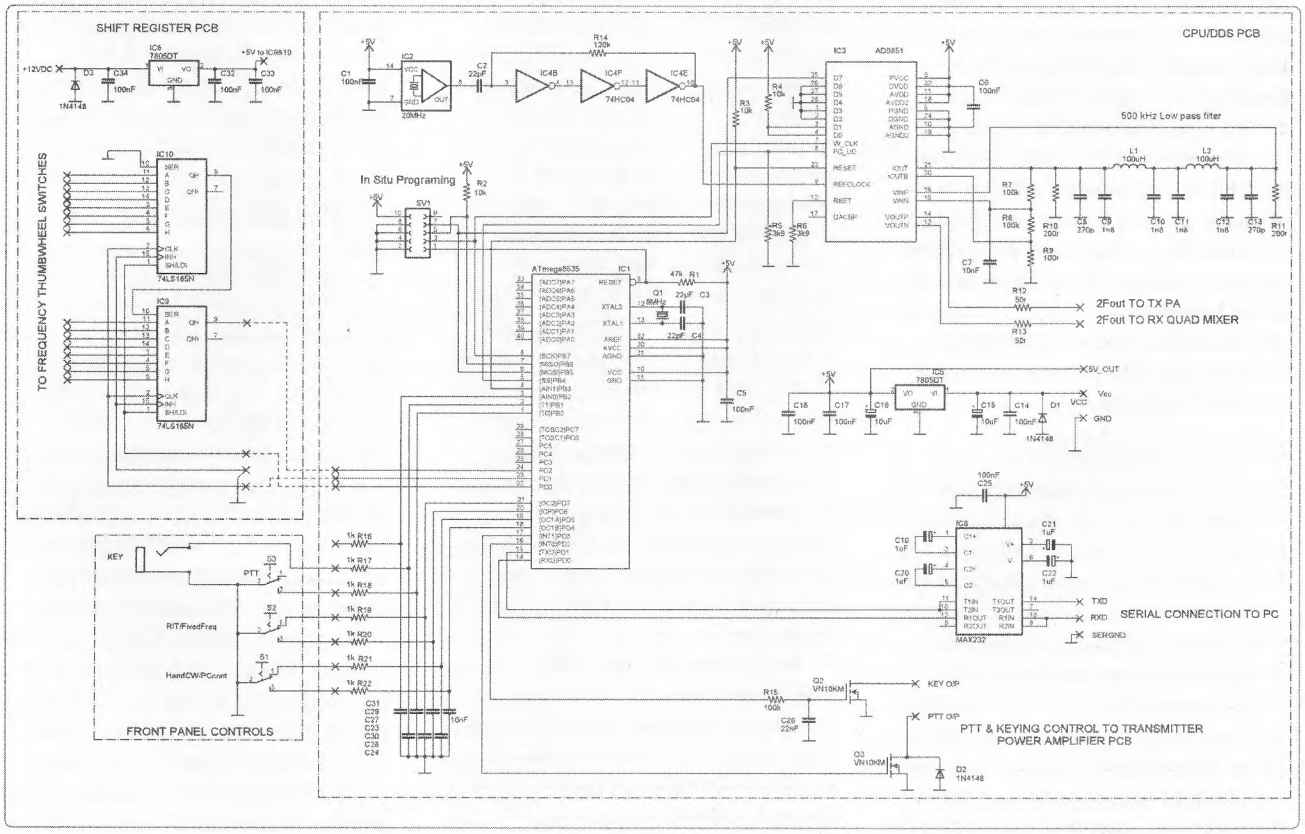
1. Standard CW - either hand sent or from an attached PC at 6 or 12 wpm.
2. Slow CW – known as QRSS – from 3 to 120 second dot lengths.
3. Differential frequency CW - where the dot and dash elements are sent as slightly different frequencies. Dot and dash lengths are the same in this case.
4. Castle CW – Dot and dash are sent as different frequencies with an additional frequency shift depending upon the time relationship of the character elements. This mode is probably the most time efficient and easiest to read of the QRSS modes.
5. Sequential multi-tone Hellschreiber – an 'image' based transmission mode where each character is sent as an array of pixels that can be read directly from the computer screen.

Modes 2 through 5 require the use of an attached computer for both transmission and reception of the signals. For reception of the QRSS modes it is essential to use a computer running specialist spectral analysis software, which converts the received signals into a display suitable for visual decoding. Several packages are freely available and are commonly used: ARGO, Spectran and Spectrum Lab. A search of the web will easily locate them.

The receiver can operate in two distinct modes, 'RIT' or 'fixed frequency':

1. The RIT mode shifts the receiver local oscillator frequency so that it is always offset from the received frequency by (in this case) 1000 Hz; this generates the audio tone when receiving a CW signal by ear, for example if the receiver frequency if 135.900 kHz the local oscillator is set to 134.900 kHz which results in a one kHz beat note. The band-pass filter on the audio amplifier board (see Figure 8) is tuned to the same frequency as the beat note. This is the reception mode we are all familiar with when using a conventional CW/SSB receiver.
2. The fixed frequency mode is different in that the receiver local oscillator frequency is set to 135.000 kHz. This means that any

Figure 2: Processor and DDS circuit. L1 and L2 are miniature axial chokes. Except for the AD9850 DDS chip and a number of capacitors, all of the components are the leaded variety.



frequency in the band is received as an audio tone that is directly proportional to its frequency, for example a signal at 137.400 kHz appears as a 2400 Hz tone etc. When using a PC with suitable spectrum analysis software that is properly calibrated the received signal appears as a line on the screen at the correct frequency. In this way the whole band can be seen at one time and a watch kept on activity. When a signal is seen the operator can zoom-in on the frequency and decode the transmission. This is very similar to the normal Software Defined Radio applications that are now becoming common.

The transceiver serial port allows the transceiver to be controlled using a PC if desired. Except for setting the frequency (which is done using the thumbwheel switches) all other modes and functions can be accessed through the serial port by using a PC running common terminal emulator software (HyperTerminal etc.). In addition to being able to view and change most settings of the transceiver, text can be entered from the terminal which is then converted by the AVR processor to the required transmission mode (CW, DFCW, CASTLE and Hellschreiber) and speed, then transmitted. A beacon mode is provided so that specified text is sent repeatedly. The same PC can also run the spectral analysis software (for example, ARGO) at the same time as the terminal emulator and this makes the system very easy to use as the received signals can be shown on the same screen as the transmitted signals.

Circuit description

Overall control of the transceiver is achieved using an Atmel AVR processor (see Figure 2). An ATmega8535 device was originally used and then upgraded to the more readily available ATmega32 device; other pin-compatible AVR devices would be suitable if required. This device reads the various front panel switches, communicates with an attached PC (if used), controls the DDS chip, keys the transmitter and performs T/R switching. The microcontroller is clocked at eight MHz and this clock determines dot length timing by means of regular internal hardware interrupts. Operating frequency is set using four BCD thumbwheel switches which are read by the microcontroller through two 8-bit shift registers. This was done as there would have otherwise been insufficient data lines for all the required functions and it means that the frequency selection switches could be mounted remotely from the CPU if required. The microcontroller generates a load and shift signal which then is used to shift the selected operation frequency into system. Note that the first two digits – one (1) and three (3) – are assumed by the software and the user can set the frequency to one Hz resolution. Other inputs to the microcontroller come from other front panel switches and the serial port. The RS232 serial port interface uses a common MAX232 chip. Open drain transistors are used to switch the main transmitter keying transistor and Transmit/Receive relay.

The local oscillator is generated at twice the signal frequency by an AD9850 DDS chip. Dividers in the transmitter and receiver chain convert the 2F signal to the required signal frequency. A high stability 20 MHz TCXO clocks the DDS chip and this gives the ability to precisely set the operating frequency with excellent long term stability. As the operating frequency is a small fraction of the 20 MHz clock frequency, a relatively simple 500 kHz low pass is used to clean-up the DDS output and this helps to ensure spectral purity of the output signal. The TXCO used in the prototype generated a sine-wave output and IC1 (74HC04) acted as a limiter to produce a square-wave. The limiter can be bypassed by a link if the chosen oscillator module provides a square-wave output.

The transmitter assembly (Figure 3) uses techniques that are commonly applied to switch-mode power supplies and the design is based on well proven techniques, which have been used in many transmitter designs. The input frequency is divided by two and then fed to a FET driver which is used to drive the gates of the RF output devices. This is required due to the significant input capacitance of the output FETS and the driver chip ensures that each output FET is rapidly switched, which helps maintain the efficiency of the amplifier by reducing the period where the FET is passing through its linear region of operation. The gate drive is AC coupled with clamp diodes so that the output transistors will not draw any current if the input drive fails. The circuit is robust and will work with minor modifications to approximately 2 MHz.

The output transistors are in push-pull and their drains are connected to a tapped output transformer so that the output power can be adjusted from approximately 10 watts to full power. The ability to easily adjust output power is useful for testing aerials and for having local contacts. Note that the amplifier would be classified as a 'Class D' design and is configured in the 'current switching mode'; no bypass capacitor is installed at the centre tap of the output transformer primary. See Reference 3 for a description of current and voltage switching modes operation of push-pull amplifiers, as well as a number of transmitter designs using circuitry similar to that described in this article.

Protection circuitry is provided to protect the output transistors in the event of high SWR, DC current consumption or other undesirable conditions. The analogue signals from the SWR meter and current transducer pass to comparators and a flip-flop. In the event of an adverse situation, the comparator output goes high which toggles the flip-flop. This removes the drive to the divider chip and RF output power drops to zero. Protection can be enabled/disabled using links on the transmitter circuit board. I've found that when using paralleled FETs that the protection has been unnecessary as the FETS appear to be able to withstand most abuse.

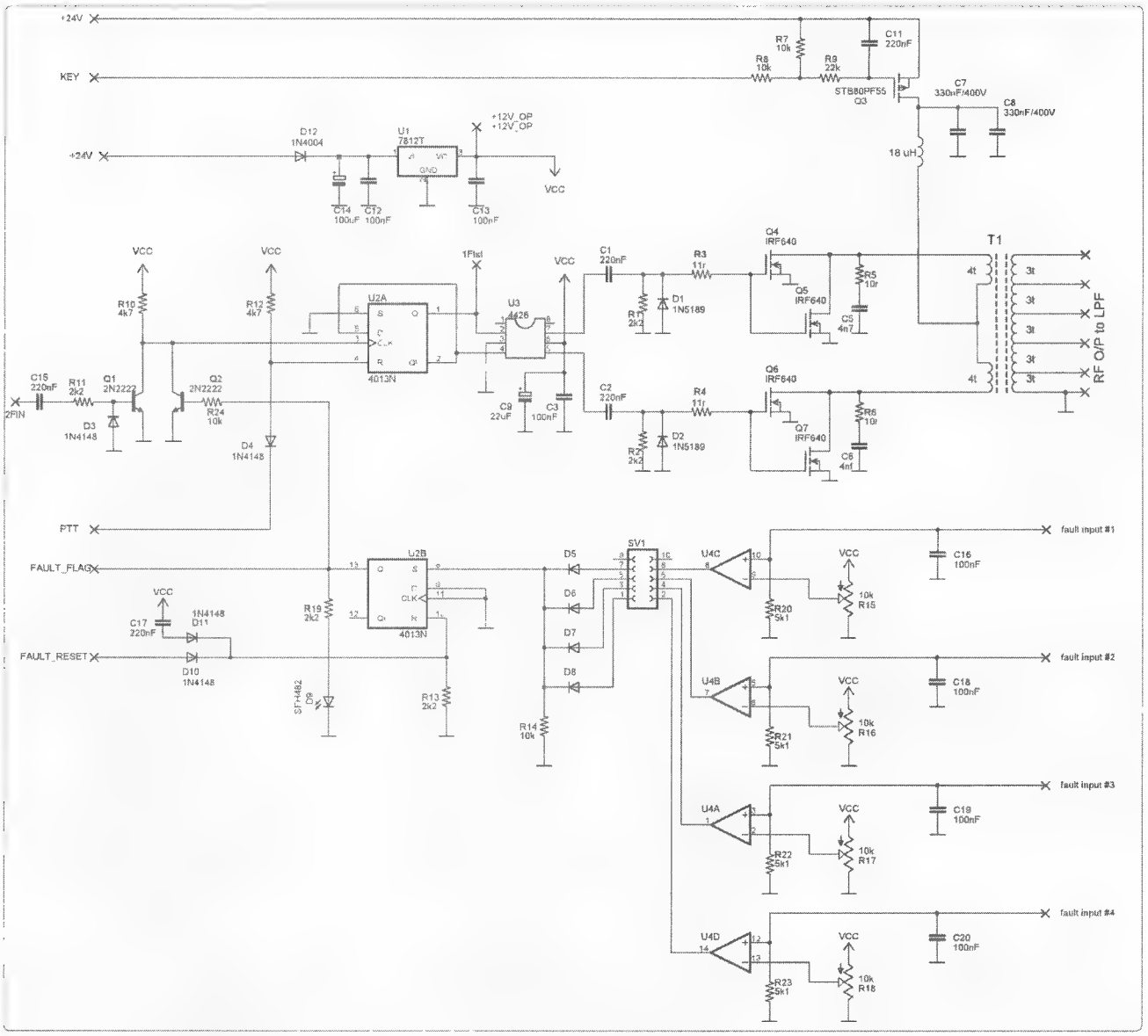


Figure 3: Power amplifier circuit. Transformer T1 is wound on an ETD49 ferrite core (3C85 material), similar cores of a suitable size and material could also be used if they are available. Choke L1 is a 28 mm toroid core (yellow and white marking) recovered from a PC power supply. Power to the output stage is enabled when the 'Key' input is grounded; RF drive to the output is enabled when the PTT input is grounded. The 'Fault Flag' output (will drive a LED) and 'Fault Reset' lines can be brought to the front panel if required so that the operator is alerted to a fault condition. Transmission can resume once the 'fault' is removed. The fault and overload protection circuitry (U2b, U4 etc) can be deleted if such protection is not required.

However, depending upon individual circumstances, it may be desirable to have some automatic protection installed.

Keying of the transmitter is accomplished using a P-channel FET, which switches the supply current to the push-pull output transistors. The rise and fall time of the keyer transistor input is controlled by an RC network, this results in rise and fall times of about 10 ms which virtually eliminates key-clicks.

The transmitter output is a more-or-less pure square-wave that contains many harmonics that must be removed from the signal before it is connected to the transmitter antenna. A five pole low-pass filter is suitable and this removes the harmonics from the transmitted signal (see Figure 4). The filter 3 dB frequency is approximately 200 kHz. Harmonic removal is also assisted by the resonant transmit antenna. Also provided is a SWR meter and RF ammeter so that the operator can monitor the tuning of the transmitter antenna and adjust it for optimum tuning. The metering circuitry appears relatively complex, but it's a standard SWR bridge. The added complexity is due to my wanting to use the transformer as an RF current transformer so that the transmitter output current could be monitored. A separate current transformer could be used and the relay switching eliminated if required.

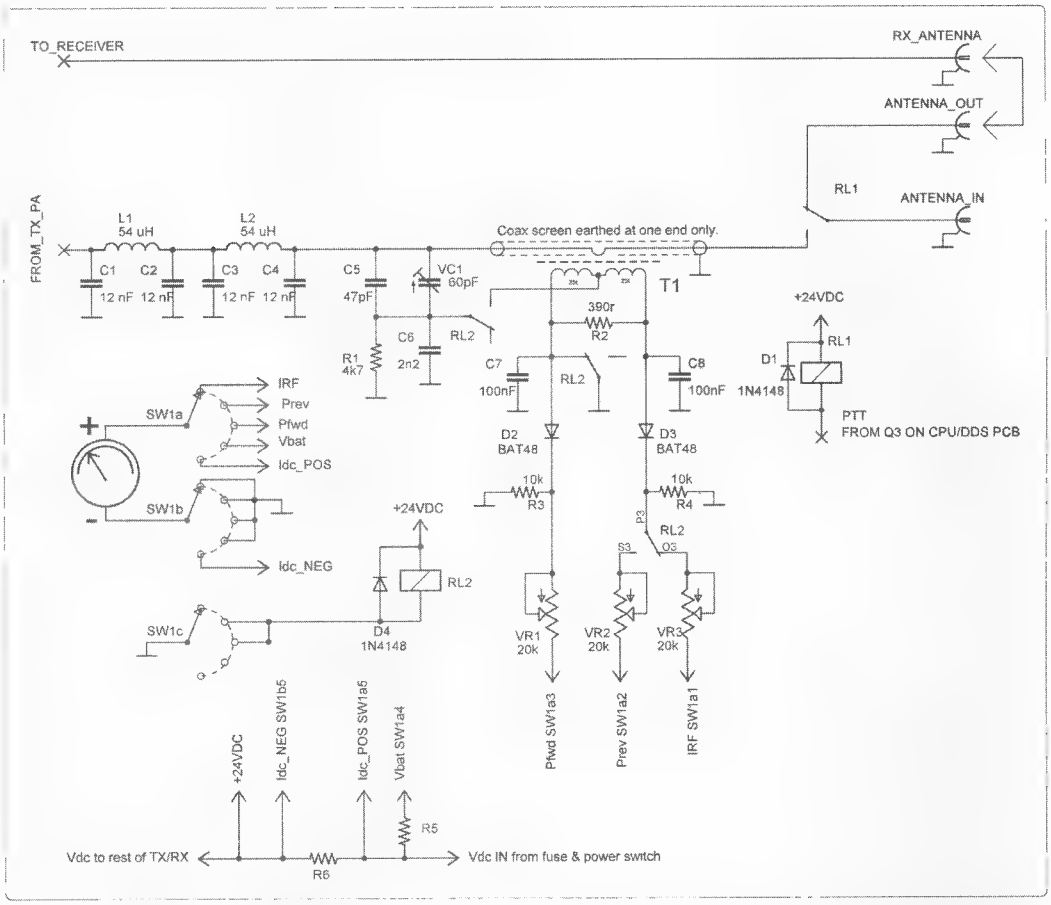


Figure 4: Low pass filter and meter circuit. The meter can be switched between SWR, RF current, forward power, reverse power, supply voltage and supply current measurements. R5 & R6 should be selected for the required full scale DC supply voltage and current measurement. Separate meters could be used if desired which would result in a much simpler circuit. So that the receiver can use a separate antenna, two connectors are provided on the rear panel which allow selection of either the main transmit antenna or a separate receive antenna e.g. active whip or loop. The primary winding of transformer T1 is the inner conductor of the coaxial cable passing through the centre of the toroid core. The secondary is 25 turns, bifilar wound, on a 15 mm 3C85 core, type 43 material would also be suitable. Potentiometers VR1 through VR3 are used to calibrate the forward and reverse power readings and RF current. This can be done using loads of appropriate and known resistance.

Relay RL2 switches the function of transformer T1 between a current transformer and SWR bridge. Measurement of the supply voltage and current is useful for measurement of amplifier DC power input and efficiency calculations. The voltage from the reverse power detector can be connected to one of the fault input comparators on the transmitter power amplifier PCB if required. This will protect the transmitter in the event of a high SWR load, although I have found this unnecessary in practice. The main cause of failure of the output transistors has been spurious oscillation and this has been eliminated by the addition of low value resistors in the gate circuit which damp any high frequency oscillation in the output devices. Note that the resistors need to be mounted as close to the FET gate connection as possible.

Moving now to the receive path, the preselector input stage (Figure 5) consists of a double tuned circuit followed by a high impedance FET amplifier and emitter follower. Other transistors types than shown could be substituted if required. The input tuned circuits determine the overall RF bandwidth of the receiver. With the component values shown the bandwidth is about three kHz. L1 and L2 are small 455 kHz I.F transformers; the internal tuning capacitors were removed and external tuning and coupling capacitors installed. The transformer cores were then adjusted to give the required response.

Signals from the preselector filter and amplifier are passed to a pair of mixers (Figure 6) through a conventional three dB splitter. As the receiver uses a phasing method to reject the unwanted sideband (or image frequency) a pair of local oscillator signals in phase quadrature is required. A 74HC74 dual flip-flop is configured to generate the quadrature signals, and these are fed to the mixer switches in anti-phase. The mixers are a variation of the 'H-mode' configuration which results in a mixer with very good signal handling ability. This variation eliminates the need for multiple transformers, which are required in the conventional version; however this design requires a transformer with five windings on a small toroid core. The advantage of the 'H-mode' design is that one side of the mixer switches are connected to ground and this eliminates the variation in gate 'on and off' resistance due to the local oscillator drive that can degrade the strong signal capability of switching type mixers. (See Reference 5 for more details) The amplifiers at the mixer output provide significant gain at audio frequencies,

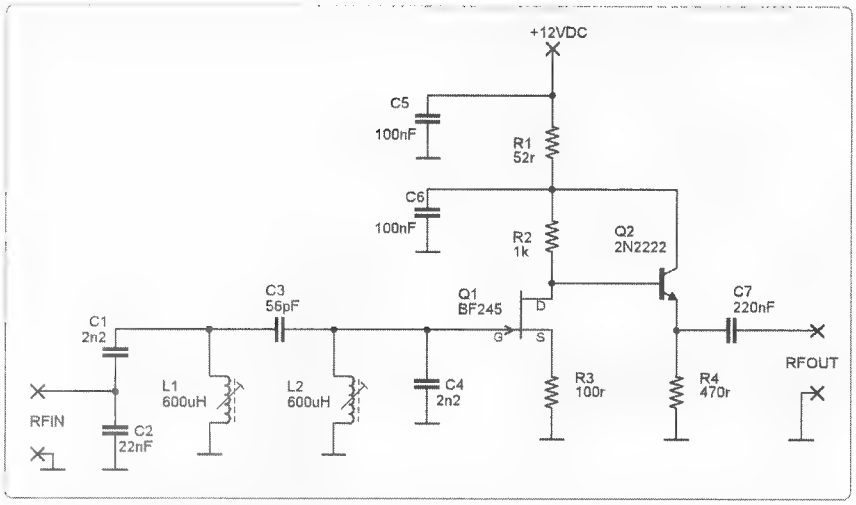


Figure 5: Preselector circuit. L1 and L2 are modified 455 kHz miniature IF transformers. The measured inductance for the units that were used is shown. Different types of transformers may have different inductance, in which case the resonating capacitors may need changing.

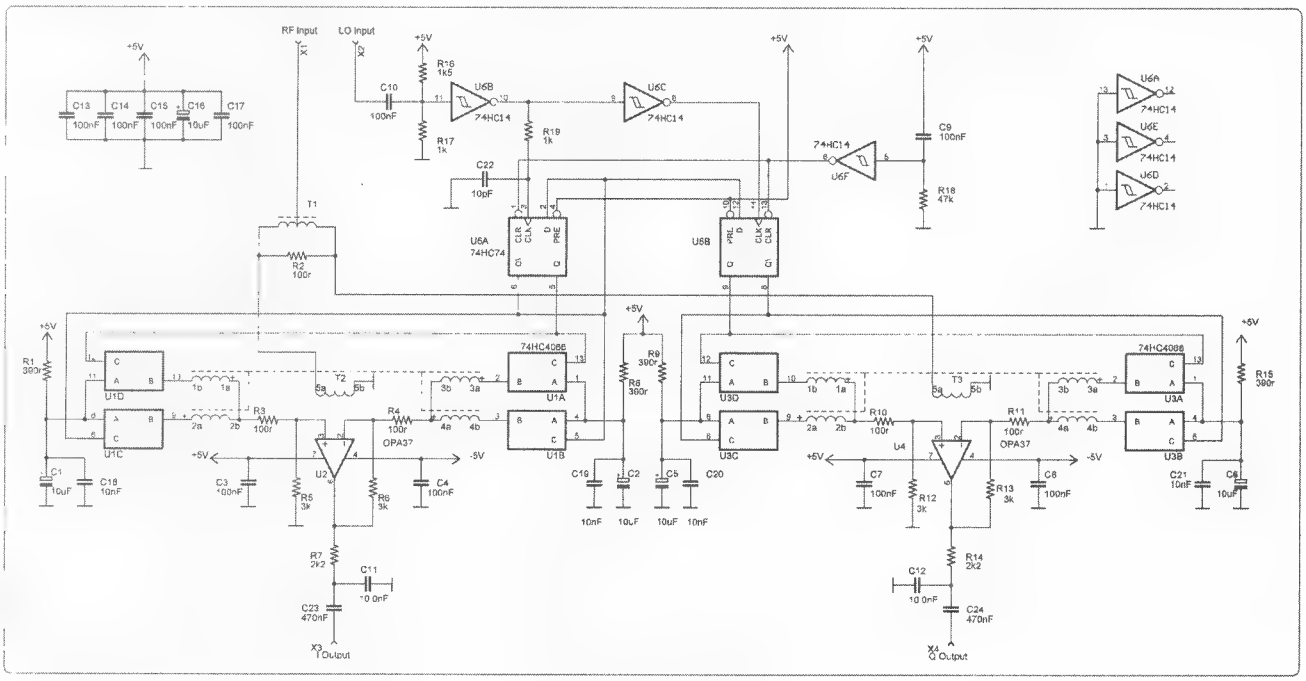
the audio output then passes through a low-pass filter to remove noise and unwanted frequencies before the signals are passed to the phasing network.

The two audio signals in phase quadrature (I & Q signal paths) from the mixer board are passed through an all-pass filter (Figure 7) which maintains an accurate 90 degree phase difference between the two channels over the required range of frequencies. The output from each filter channel is then added together, and as a result of the quadrature phase relationship between the audio paths and the local oscillator, the audio image (the unwanted sideband) is cancelled out. Small amplitude differences between the I and Q channels can be corrected by means of potentiometer VR1 at the summing junction. The wanted signal is then passed through an audio band-pass filter. The network shown has upper and lower cut-off frequencies of 2.7 kHz and 300 Hz respectively.

This design is taken from Reference 4 which gives a very good description of how phasing networks function. The phasing network resistors are standard 1% tolerance and the required values were made up from series connected resistors. The capacitors were hand selected from a bulk purchase of 100 polyester capacitors and were chosen from the batch so that all the capacitors used had matching values. The NE5532 dual amplifiers have a wide bandwidth and low noise, making them ideal for this application.

Following the band-pass filter is another gain stage followed by the audio power amplifier, which feeds a loudspeaker or headphone (Figure 8). For situations where aural contacts can be achieved, a CW band-pass filter can be selected. The filter has a 'Q' of 4 and a centre frequency of 1000 Hz, so the 3 dB bandwidth is 250 Hz. Selecting this filter significantly improves the signal to

Figure 6: Quadrature mixer circuit. T2 and T3 are 12 5-filar turns on T50-43 cores. T1 is 16 bifilar turns on a T50-43 ferrite toroid core. Amplifiers U1 and U2 must be low-noise types. OP37 or similar devices are ideal as they have a low noise figure and significant gain.



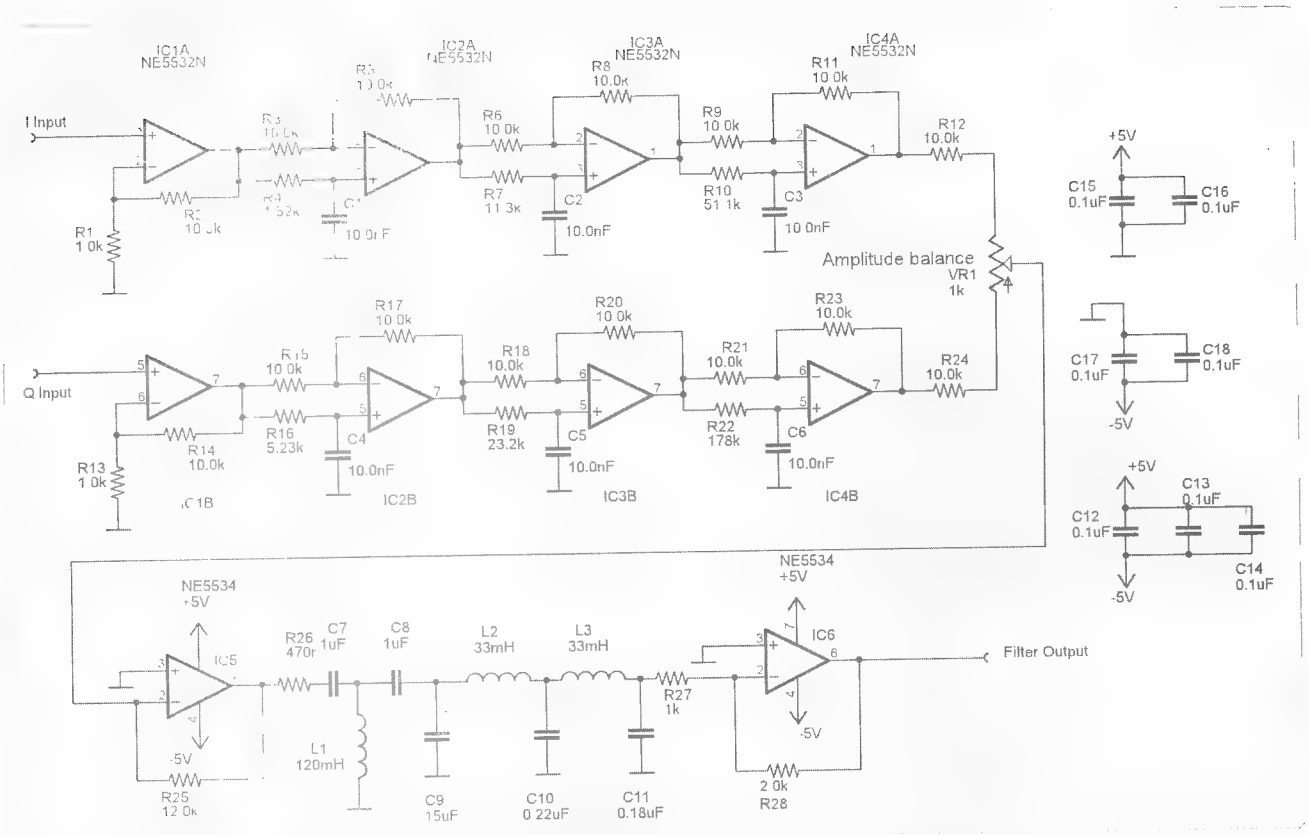


Figure 7: Audio phase shift and band-pass filter circuit. The resistors in the phasing circuitry can be made up from series combinations of standard values. The values of the capacitors in the phasing network don't need to be exactly 10 nF but should be closely matched if possible.

noise ratio of the received signal. So that signal levels are not disturbed, an amplifier with the same gain as the band-pass filter is fitted; thus the audio output level doesn't change when the filter is enabled or disabled. The final amplifier (U4) amplifies the signal to drive a loudspeaker; it also has a 'mute' input which suppresses any receiver noise when the set is transmitting. This mute signal is taken from the CPU board PORTD3 output which controls the T/R relay.

Power to the transceiver was supplied from a 24 VDC source and three terminal regulators and a small DC-DC converter were used to provide the various supply voltages to the modules. No detailed information is provided for the power supply as constructors will probably want to make their own arrangements; depending upon what parts they have available. The voltages required are 24 V, 12 V and +/- 5 V.

Components and Construction

The transceiver was constructed on a simple home made chassis with CPU/DDS and receiver modules underneath and the transmitter, low-pass filter and power supplies on the top of the chassis. A front panel holds the operator controls and meter. The final design will be largely dictated by what components and facility the constructor has at his or her disposal.

Screened cable was used for all low level signal circuitry and extensive bypass and decoupling capacitors installed where power passed from one module to another. Appropriate feed-through capacitors or coaxial connectors were used whenever power or signals passed through chassis partitions.

Most of the components are readily available, particularly the power FETS. I purchased high voltage capacitors for the low-pass filter from Rockby Electronics *(www.rockby.com.au)* who also has a selection of suitable ferrite cores and transformer assemblies. The AVR processor and Analog Devices DDS chip are available from Futurlec *(www.futurlec.com.au)*. Other specialised components were purchased through RS components *(http://australia.rs-online.com)* or Farnell *(http://au.farnell.com/)*. Many suitable components (ferrite and semi-conductor) can be found in discarded switch-mode power supplies and some careful experimenting will soon indicate how useful such parts might be.

The 20 MHz TXCO was purchased from Hy-Q International Pty Ltd *(http://www.hy-q.com.au)* some years ago, but similar products are also available from other suppliers. Standard can type oscillators could be used, but frequency accuracy and stability may not be as good.

Software for the AVR Processor and artwork for the various printed circuit boards (in EAGLEcad format) are available to anyone who would like to build a similar transceiver.

Adjustments and Testing

There are relatively few adjustments required before the transceiver can be used. The main thing to ensure is that all wiring is correct before turning it on!

Before testing, the transmitter should be connected to a suitable 50 ohm dummy load and the protection circuitry (if fitted) disabled by removing any links fitted to SV1. Starting with a low power tap selection, output power should be seen on the forward power meter when the transmitter is energised. Switch to reverse power and adjust VC1 in the SWR meter circuitry so that the meter reads zero. The forward and reverse power meter readings can be calibrated using the associated potentiometers (VR1 and VR2) in the SWR meter circuitry. The RF ammeter can be calibrated by measuring the voltage across the dummy load, calculating the associated current and adjusting VR3 so that the meter shows the correct value.

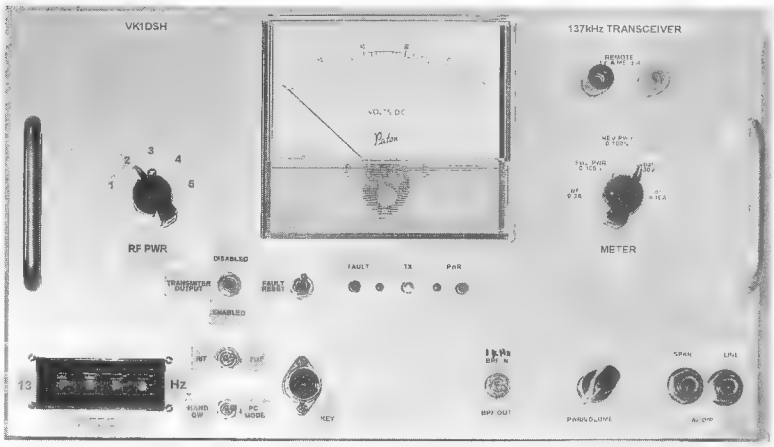


Figure 9: Front view of the transceiver. A useful addition was the 'Transmitter Output Disable' switch so that the set could be worked on without the risk of accidently transmitting into receiver amplifiers or active whip circuitry. The switch disconnects the keyer transistor so that no drain voltage can be applied to the output power transistors.

Adjustment of the protection circuitry is done by re-installing the wanted jumpers on SV1 and adjusting the comparator trip potentiometers until the desired level of protection is achieved with whatever fault level is applied.

Constructors will have their own specifications for this aspect of the design. The transmitter can now be run at full power and at least 200 watts should be generated, efficiency is typically greater than 80 % at this power level.

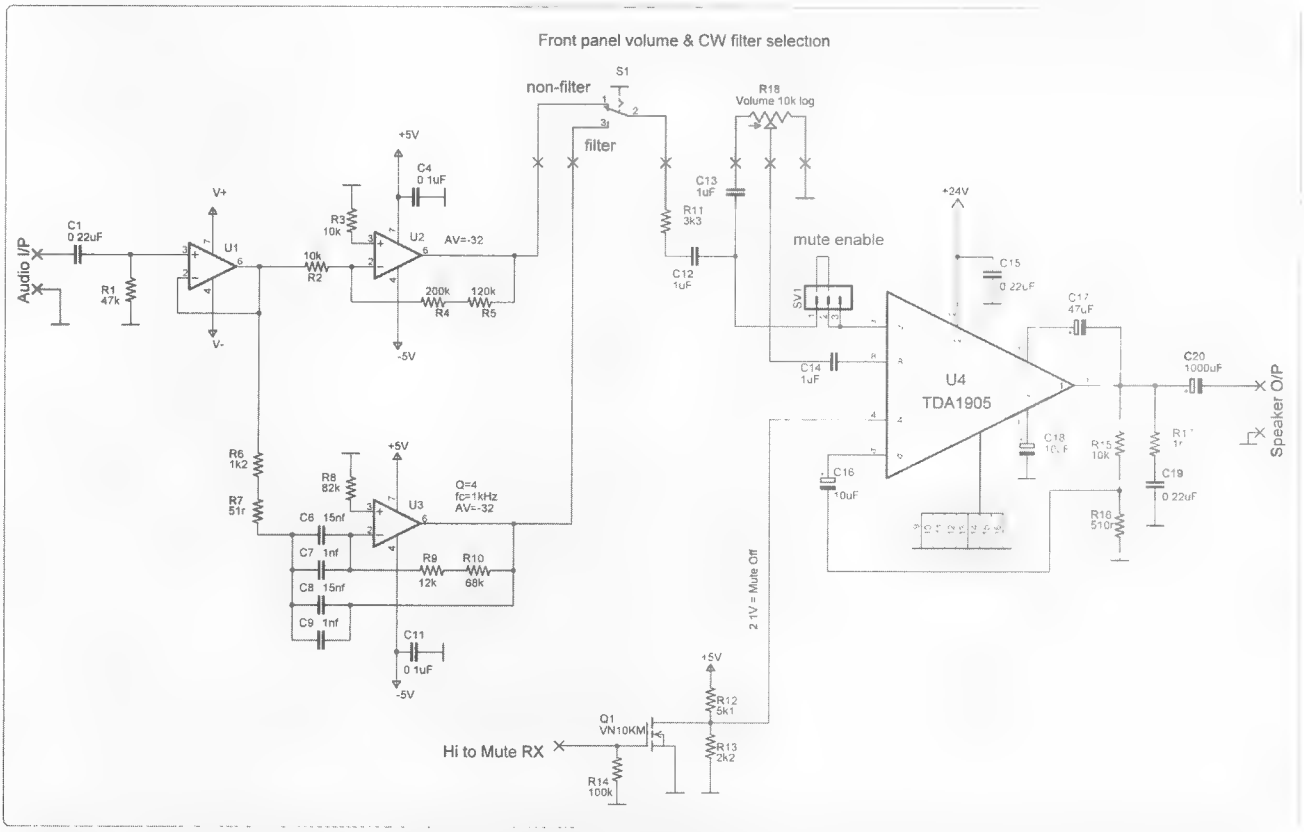


Figure 8: Narrow band CW filter and audio power amplifier. Amplifiers U1, U2 & U3 can be any suitable low-noise operational amplifiers that are suitable for audio use e.g. TL071, NE5534 etc. The in-built mute circuitry of the TDA1905 can be disabled by removing link from SV1.

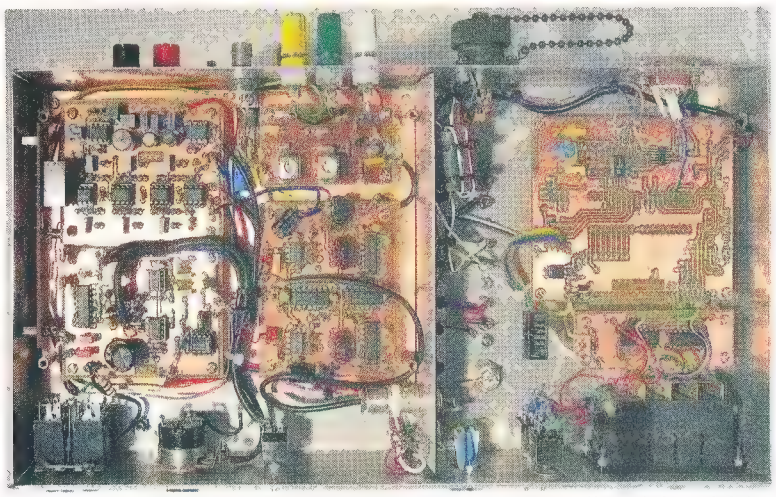


Figure 10: Underside of the transceiver chassis showing (from left to right): the receiver modules, CPU/DDS, shift register and thumbwheel switches. Terminals on the rear panel provide power to external circuitry such as loop and active antennas.

The receiver requires few adjustments. The tuned circuits in the preselector circuit (Figure 5) should be peaked for maximum response; using the values given in the schematic should give a response that covers the entire band.

Assuming the components selected for the audio phase shift network (Figure 7) were carefully selected, the phasing network should work by just adjusting the 'Amplitude Balance' control (Figure 7, VR1) to the centre of its range. Accurate adjustment can be done in the following way:

1. Set the receiver to 'fixed frequency' mode, this sets the receiver local oscillator to 135.000 kHz. Set the signal generator to 136.000 kHz and inject a weak signal into the mixer input, that is, bypassing the input RF preselector. If the mixer output I & Q channels are correctly connected a one kHz tone should be heard from the receiver, if nothing is heard swap the I & Q outputs from the mixer to select the other image frequency and the tone should be heard. If still nothing is heard, there is a fault somewhere else and that will have to be fixed before proceeding.
2. Now set the signal generator to 134.000 kHz, the one kHz tone should be much weaker. Adjust the 'Amplitude Balance' control (VR1) to minimise the volume of the tone.
3. Reset the signal generator back to 136.000 kHz and the tone should be much louder. The amplitude difference between the two frequencies is a measure of the image suppression and in the prototype receiver it was measured and found to be approximately 47 db which is quite adequate for this application. If necessary, see References 1, 2 and 4 for more details about adjusting phasing type receivers.

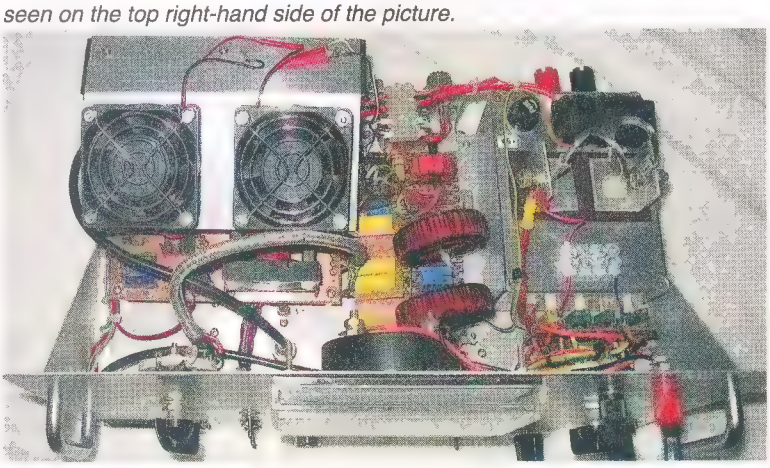
Conclusion

The transceiver described in the above pages has been in use for nearly one year and has proven itself to be a reliable and high performance design. Its signals have been received in New Zealand and a number of QSOs using either hand sent CW or one of the other QRSS modes have taken place. Receiver sensitivity and transmitter power output are more that adequate for working DX when combined with a suitable antenna. Thanks go to Bill VK7MX for reviewing this article and for his helpful suggestions.

References

1. A dual band CW transceiver. *Amateur Radio.* Two parts: August & September 2005, Volume 73, No 8 & 9.
2. A phasing type transceiver for 144 MHz. *Amateur Radio.* Two parts: August & September 2009, Volume 77, No 8 & 9.
3. *LF Today a guide to success on 136 and 500 kHz. RSGB.* ISBN 9781 9050 8636 8 Available from the WIA bookshop.
4. *Experimental Methods in RF design*, ARRL, 2003. ISBN 0-87259-879-9, in particular, Ch 9, which deals with the theory and design of phasing systems for image rejection systems.
5. *Technical Topics Scrapbook 1990 to 1994.* RSGB, 1998. P230

Figure 11: Top view showing (from left to right): the power amplifier module (beneath the fans), low-pass filter and meter circuit and power supply box. The fans are only necessary if running at full power for an extended period of time. Otherwise they are optional. The home-made current shunt can be seen on the top right-hand side of the picture.



VK3news Amateur Radio Victoria News

Jim Linton VK3PC
www.amateurradio.com.au
arv@amateurradio.com.au

Big event went well

The RadioFest held at Kyneton was a resounding success although numbers were slightly down due to the widespread flood damage throughout Victoria.

The set up work began on the Saturday and involved the gathering of material from 40g Victory Boulevard Ashburton involving Barry Robinson VK3PV, Terry Murphy VK3UP and Tony Hambling VK3VTH.

The trio then met up with Ross Pittard VK3CE, Lia Pittard VK3LPH and Peter Cossins VK3BFG and others who made the site ready, including the public address system.

Caterers from the CFA Kyneton were ready for a big day. Volunteers from the Central Goldfields Amateur Radio Club led by Peter Rafferty VK3CC arrived from 6 am Sunday and the gates opened on time.

A brisk trade was reported from the commercial and second-hand sellers and plenty of interest shown. Keen bargain hunters rushed the tables, car boots and trailers in an attempt to snare the best treasures. All manner of amateur radio goodies were on offer for the discerning buyer.

Peter Mill VK3APO and other committee members manned the Amateur Radio Victoria sales table. Nearby there was a pictorial display about the Keith Roget Memorial National Park Award. Peter Fraser VK3ZPF and Tony Hambling VK3VTH spoke of their activations of the old and new parks. Quite a few stopped by to say 'hello' and the promotion encouraged several new members to join the Yahoo activation group.

Other displays were mounted by participating clubs and they did well, being provided with one free display table each. The WICEN (Vic) caravan was located not far from the CFA food gazebo. A feature again was the WIA display.

The Traders Hall precinct included the latest on offer from Strictly Ham, NBS Antennas, TTS Systems, Vertex (Yaesu), Rippletech Electronics, TET Emtron/Bushcomm, Television Replacements and Jaycar Electronics.

The lecture hall began to operate with the first of three sessions with kites flying thanks to Tino Pavic VK3EGN who had a display on kite-erected antennas.

The other lecturers were Jack Bramham VK3WWW who spoke on the 8th IARU Region 3 Championships, and Rex Moncur VK7MO and Justin Gilles-Clark VK7TW who had an enjoyable day talking on light beam communications, and privately shared notes on digital television experiments.

Through the day the Scout Radio Electronics Service Unit not only had a good display but also ran come'n'try sniffer hunts.

The lucky door-prizes were drawn at 2 pm with Vertex representative Felicity Boulter who presented a Yaesu hand-held radio to David Cheney VK3FDJC, 2nd prize was a TZ1840 Balun from RippleTech Electronics, and the 3rd and 4th prizes were two personal DVD recorders donated by Jaycar Electronics.

Classes on offer

By the time you read this a number of former Foundation licensees have upgraded thanks to the latest Bridging Course under tutor Kevin Luxford VK3DAP. Congratulations to all involved.

The Education Team Leader, Barry Robinson VK3PV is finalising candidates for the next Foundation licence weekend of 30 April and 1 May.

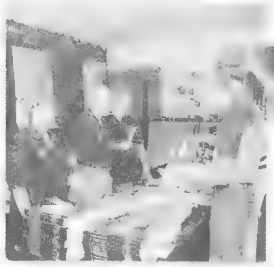
If you know someone interested please let them know for more information to contact Barry *foundation@amateurradio.com.au* or 0428 516 001.

Annual General Meeting

As announced earlier the Annual General Meeting of Amateur Radio Victoria – WIA Victoria will be held on Tuesday 17 May, 2011 at 40g Victory Boulevard, Ashburton. The annual reports will be made available to members.

Primarily the annual reports and the profit and loss statements have been issued electronically via the e-membership pages. Hard copies are been sent to members not registered or on demand. Inquires about these matters are best made to the Secretary/Treasurer Ross Pittard VK3CE.

Sufficient applications have been received filling all eight positions for the incoming board of directors (Council) for the coming term.



Members of the Eastern and Mountain District Radio Club wish to thank all vendors, commercial and private, who supported their recent **White Elephant Sale** and also the many buyers who attended. We trust everyone benefited from the event and that the facilities and services provided were satisfactory.

Jack Bramham VK3WWW
President

VK3news

Geelong Amateur Radio Club - The GARC

Tony Collis VK3JGC

January WIA VHF / UHF Summer Field Day

Photo 1: GARC Team LUMEG and their microwave installations.

Three teams from the GARC set out on the Friday to prepare for the following day; two with rather more success than the third!

Team GARC- LUMEG

The LUMEG field day was a success, with considerable activity despite the floods keeping some operators from going portable.

There was some good propagation to be had with contacts into central NSW and SA. More time was spent on the lower bands this time due to several notable microwavers being involved in the VK9NA trip or chasing them from the east coast.

Once again the VK7 operators proved elusive although the beacon was coming in at good strength. Operators this time were Carlo VK3BCL, Ken VK3NW, Chas VK3PY and David VK3QM. Unfortunately Charlie VK3NX was unable to join them portable this time due to prior commitments, although he was with them in spirit; as he operated from home for a short period.

Team GARC – VK3ALB

The team comprising Lou VK3ALB, Nik VK3BA, Peter VK3APW, Jenni VK3FJEN and Michael VK3FMIC headed to Mt Leura again for the Summer 2011 Field Day and inaugural Microwave Challenge. The microwave challenge is a distance based event for microwave bands 1296 MHz and up. The trip to Mt Leura was a little more eventful than usual due to the heavy rains experienced earlier in the week. Luckily the rains stopped on Friday afternoon but the Hamilton Highway was covered by flood water in many places. The weekend weather was much better than it had been in previous years and signal conditions were better than the team had ever experienced before.

Saturday morning, before the contest began, they were surprised to copy Leigh VK2KRR at S9 +20 dB on 1296 MHz compared to the S1 or S2 that they normally hear him; so the changes they had made to their setup procedure meant that they had time to relax and chat with Leigh and other participants before the contest got underway.

The team introduced VK3APW's new 10 GHz transverter system into their arsenal, which performed very well. They also tested a VK3APW designed 6 m halo which worked wonders for them on the magic band and brought them a handful of nice contacts into VK5 and an amazing S9 contact with VK4FNQ.

Other highlights of the weekend were Michael VK3FMIC working VK3UHF (Team GARC – LUMEG) on all bands from 6 m through to 10 GHz in **three minutes flat**; working Ralph VK3WRE on all bands to 10 GHz at a distance of 299.4 km. A new grid square for both of them and a new distance record for the group on 10 GHz.

VK3ATL: Microwave dishes (L to R) 10 GHz, 2.4 GHz and 5.7 GHz.

They also had a flurry of VK5 contacts on 6 m through to 23 cm late on Saturday evening.

GARC Team VK3ALB are pleased to report that they came first in the 8 hour section, third in the 24 hour section as well as equal first with Ralph VK3WRE on 5.7 GHz and 10 GHz in the Microwave Challenge.

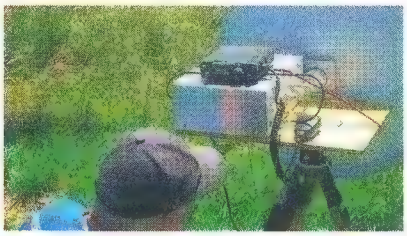
Team GARC – VK3ATL

The operation of GARC Team VK3ATL in the Otways, was more one of triumph over adversity, where everything that could go wrong did.

Initially the feed line tails for the 70 cm and 23 cm antennas were too short to be connected direct to the transverter, so an improvised high up shelving had to be constructed over the door to house the equipment. The antenna mast with rotator then had to be extensively clamped to two ladders and the shack guttering to keep it upright. In the meantime the 10 GHz set up, pictured below, decided to intermittently malfunction within the transverter.

In spite of all the problems, multiple contacts were made on all bands, on Saturday, from 6 m to 3 cm but not in sufficient numbers to be anyway competitive. Those participating were Dallas VK3DJ, Lee VK3PK, Tony VK3JGC, Garry VK3FWGR and Vanessa VK3FUNY. On Sunday the Field Day was abandoned and Team GARC-VK3ATL then went on a Geo Caching hunt using portable GPS systems.

Lee VK3PK setting up the 2 m antenna.



Dallas VK3DJ working the microwave gear.

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$199.00 QT-2202

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VK3BJM versus 'The tower'

Barry Miller VK3BJM

Photo 1: The temporary support.

Some time ago I posted a few photos on my website (*www.qsl.net/vk3bjm*). These photos have caused some consternation, it would seem. The question 'Is that a staged photo, or was that situation REAL?' keeps being asked of me...

Then, at GippsTech 2009, Andrew Martin VK3OE gave a presentation entitled *'Towers: Some of what you need to know, plus what you don't want to know'.* This was a well thought through reminder about an amateur's biggest, and most dangerous, asset. Over lunch on GippsTech Sunday, Andrew asked me about 'those photos'. Andrew had plans to write an article for *AR* on towers and tower safety, and was looking for examples of where things had 'gone wrong', or 'very nearly gone wrong'. I thought mine was a case of 'very nearly gone wrong' and, in an effort to retain any sense of face or dignity amongst the amateur community, I agreed to set the story down, before some wag did it for me.

No amateur is an island, apparently. However, there have been times when I have felt like a promontory with an isthmus that is submerged at high tide. That aside...

In mid-2003 I shifted to a 1.4 hectare (3.5 acre) property halfway between Kyneton and Malmsbury, in central Victoria. The search then commenced for a second-hand Nally tilt-over tower. After some time, and with the assistance of David VK3QM and Chas VK3PY, one was found just south of Colac. Alan VK3XPD kindly assisted me in transporting it to my new abode. I was able to organise the insertion of the base-pole and concreting of the slab myself, but again I was assisted in raising the lattice tower section onto the base-pole, this time by Trevor VK3VG. With this complete, I thought all the hard stuff was out of the way – I had a tower I could tilt over single-handedly, and I need never bother anyone with requests for assistance ever again. And I am afraid that I am the sort of person who does not like to bug others for their valuable time.

All was well for a while. I duly installed a medium-duty rotator, and two Yagis, a 14 element for 144 MHz, and a 22 element for 432 MHz. Despite the tower being an older model – one with the old-style ratchet winch, un-geared and no brake – I was able to tilt over, and restore the tower to vertical, without any problem, single-handedly.

But, of course, a single Yagi is just never enough. I started work on an H-frame, to hold 4 x 14 element yagis for 144 MHz, and 4 x 28-element yagis for 432 MHz. I knew others had similar size arrays on Nally towers, so I figured I would be all right. And then along came a stint of long-service leave, and the chance to get this all up in the air.

I tilted over the tower, and stripped it of the old yagis. On went a new, beefier rotator, then the H-frame, and next were all eight Yagis, plus feed lines. All looked good – so it was time to raise it to vertical!

Winding, winding, winding... Thinks: Gee, this lot is a bit heavier than the old set-up! I managed to get the tower wound up until it was raised about 1.5 to 2 metres above the A-frame that I rest the lattice section on when tilted over – and that is where I stopped. I simply could not physically turn the steel handle of the ratchet winch! More critically I could not release the latch, so as to lower the tower back onto the A-frame, where it could rest safely. Argh!

I chose at that moment to stand back and consider the situation - the winch latch, at least, allowed me this luxury. I had a five metre length of treated-pine, and I wedged that into the tower lattice, to support it in lieu of the A-frame. Refer Photo 1. This is just visible on the right-side of one of the photos. Then I went and had a cup of tea...

Whilst drinking said beverage, I decided that my best approach was to jury-rig some form of counterweight, and add extra length to the winch handle, to provide extra leverage. I was as confident as I could be that the cable was of sufficient strength (it was 10 mm OD) and that the winch handle was strong enough (it was 19 mm steel rod, formed to shape and welded inside the drum) to turn the drum without shearing off with the extra leverage. You can see this in Photo 2.

Looking around, the best I could find for a counterweight were two old spare wheels, left behind by the previous owners of the property. Sitting out in the paddock, they'd somehow filled with water, adding precious kilograms to their weight. I took one and suspended it, using three lengths of steel guy-wire, doubled over, and D-shackles, from the base of the lattice section. I then filled the concave side of the wheel, which faced upwards, with three volcanic boulders – my property is on a decomposing volcanic plateau, so there are a few of these about... I topped these with the second water-logged wheel, and decorated it with spare bricks. In all likelihood, this assembly probably came in at about 70 kilogram in mass. Refer Photo 3.

Next, I attached a 1.5 metre length of galvanised tube to the

Photo 2: The winch.

winch handle with two suitably-sized U-bolts. I stood back, took a deep breath, removed the treated-pine pole – and started winding, slowly and gently.

I was pleased to observe the winch handle not deforming, bending, glowing red from the pressure nor shearing off completely. The extra leverage made turning the winch relatively simple, but I chose not to hold the pipe at the ends. I figured that establishing the point along the pipe where my hands could just overcome the turning resistance was a better way of 'staying in touch' with how things were going. It took around 15 minutes of gentle winding before the lattice was safely upright and the nuts were on the locating studs at the base of the tower. At least, I think it was around 15 minutes – whilst copious quantities of adrenaline may give you near-superhuman strength, it does rather mess with the ability to accurately recall the passage of time…

Here is probably a good place to note that adrenaline is no different to any other drug – over-use is sure to shorten your life, with the added bonus that the activity stimulating its release is likely to do the same.

Consequently, I removed the old winch, and replaced it with a Jarrett braked-winch, geared at a 10:1 turning ratio, and with a load rating that is more than enough for the tower. I believe it is the same model used on the current Nally towers.

The 'counterweight' was removed, and replaced with a counterweight constructed from two 750 mm long sections of 200 mm OD steel tube, attached to the lattice section with a length of 25 mm steel rod. These are filled with steel railway 'dogs' (rail-securing spikes), to form a counterweight of about 80 kg. This forms a far safer counterweight – things are welded together, unlike the previous 'Near-Panic' brand of counterweight.

The ideal Andrew rightly pushes is that one should never perform any work on your tower whilst alone. Obviously, Nally towers and such things marketed as 'one-man-towers' lend the impression that one can get away with solo activities. From my experience (that word sounds better, even if 'near miss' has fewer letters…), I would suggest that if you have made a major change to your tower and its attachments, regardless of make or marketing angle, *have someone with you when you undertake any such task.* At the very least, they can dial for an ambulance.

I can certainly recommend *not* getting into the situation I found myself in, back in May 2006.

Photo 3: The counterweight.

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Spotlight on **SWLing**

Robin L Harwood VK7RH

A quarter of the year has already gone and I have been busily engaged on other important tasks of late. My Mother had to be admitted to a hostel associated with this retirement village as she was unable to cope with looking after herself. I have been sorting out her affairs and it has been time-consuming and numbing. I have had very little time to really monitor the bands.

In last month's column, I mentioned that the BBC World Service was axing several language services off shortwave with the predicted loss of 30 million listeners. Naturally it produced an outcry both in the UK and worldwide, yet within days of the BBC announcement, the VOA dropped another bombshell, also announcing the closure of several language services via shortwave. One of these was Chinese and this has certainly raised eyebrows. The administrators say they were going to move Chinese language programs on to the Internet and stop shortwave broadcasts. As you are no doubt aware, most Chinese language programs from Washington have been subject to jamming for many decades and the Chinese have also managed to filter out overseas sites over the internet within its borders. This announcement also came shortly after a State Visit of the current Chinese President to the US. This also caused uproar within the US but the decision was welcomed by China.

The other major news has been the downfall of regimes in Tunisia, Egypt and revolts in several other Middle Eastern countries such as Bahrain, Yemen and Libya. The latter is still ongoing at the time of writing with the nation descending into civil war. These uprisings seem to have been co-ordinated via Twitter and Facebook and shortwave seems to have been on the sidelines. I did find that overall the most authorative extensive coverage came from Al JazeeraTV based in Doha, Qatar. Their English and Arabic language coverage enraged the regimes in Cairo, Tunis and Tripoli. This led to Al Jazeera being banned temporarily there but increased their audience throughout the World. It is even carried on FOXTEL/AUSTAR on Channel 651.

The ongoing Middle East crisis also saw a big increase in programming to the region, particularly news broadcasts. It also has caused a re-evaluation of the proposed cutbacks in the BBC World service, particularly on shortwave. No final decision has been made and we will find out eventually.

In the past three months. Australasia has borne the brunt of several major disasters. It started off with a cyclone off WA and moved across the continent to central Queensland where there was major flooding over thousands of square kilometres. Then there were the floods in SE Queensland, impacting on Brisbane. Sadly the Queenslanders did not have much time to recover before FNQ was hit by Cyclone Yasi. The shortwave senders at Shepparton (Vic) relayed ABC Local radio via shortwave when there was a strong probability that the local AM/FM senders would be severely damaged. 6080 was chosen and programs were also relayed over the entire Radio Australia network. However 6080 is an extremely bad choice as there is a very strong Chinese external service during our local evening hours.

Then on 22 February, a 6.3 magnitude earthquake hit Christchurch (NZ). Although not as strong as the 4 September 2010 quake, it caused much more damage because it was a shallower depth. Over 105 people were killed and estimates of the damage are in the billions of dollars. Again local programming has been relayed via the Radio New Zealand International senders from near Taupo.

Well that is all for this month. Do not forget you can email your comments and news to *vk7rh@wia.org.au*

73 de VK7RH

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A car portable antenna mast

Rik Head VK3KAN

I have an IC-7000 that I use with a FAMPARC HF antenna, and other car mount VHF/UHF antennas when mobile. However, the mobile solution does not provide a good portable mast/antenna system for field days, WICEN operation, or the like.

I already had a 6 metre high standalone antenna mast for use on 6 m, 2 m and 432 MHz, and there was an opportunity to obtain a 10 metre squid pole as the basis for a HF vertical. This led to three questions:

- How could the squid pole be mounted using the car?
- Could the same mount be used for the existing standalone mast?
- Could the squid pole also be used for a VHF/UHF antenna?

I thought about it for some months until I came up with my solution – see Photo 1.

The criteria for the mast design were:

- The mast mount should use the existing rear ski bar without additional holes or damage. This requirement would then allow car access via all four doors
- The mount must allow the use of the squid pole and the existing standalone mast
- The masts and mounting when collapsed must fit in the back of the car
- The mount must allow vertical adjustment when the car is not on flat ground
- The mount must be simple to assemble and use minimum tools
- Both masts must be capable of being guyed in high winds
- The HF ATU should be attachable to the mast, together with a long wire counterpoise
- The squid pole should be able to be used away from the car, if required
- It would be desirable to be able to mount a ground-plane independent VHF/UHF antenna on the squid pole, if required

Photo 1.

The completed mounting post design required a plate under the rear tyre supporting a square vertical tube that is connected horizontally to the ski bar. Either antenna mast can then be attached to the mounting pole and guyed, if required.

Several visits to the local mega-hardware store eventually provided the necessary components.

The vertical mounting post is an off-the-shelf square aluminium tube that was cut in half and sleeved to allow disassembly to fit in the back of the car.

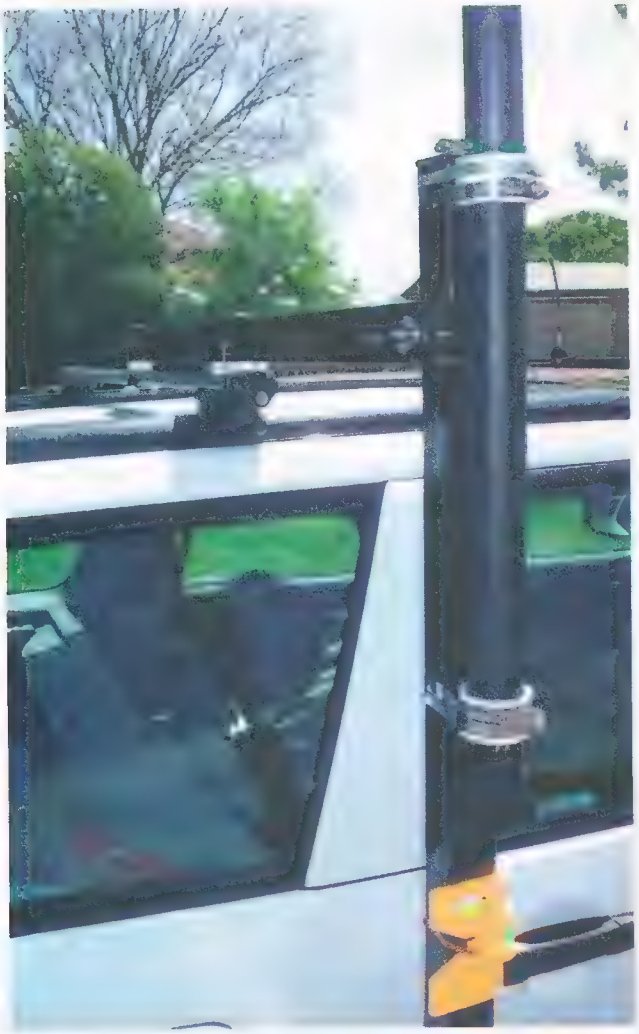

Photo 2.

The horizontal ski bar car mount is an off-the-shelf rectangular aluminium tube that is u-bolt clamped with spacers to the ski bar, and to the vertical mounting pole. See Photo 2.

The use of U-bolts with wing nuts allows easy assembly and adjustment to vertical with help from a cheap vertical post bubble level also found while at the hardware store.

As shown in Photo 3, a piece of checker-plate sits under the back wheel with an adjustable bolted connection to the mounting post.

My existing standalone mast slips into a ferrule inside the top of the square post. It can be guyed if required. The mast has an aluminium angle plate at the top and a choice of two VHF or UHF antennas with angled ground plane radials to ensure low SWR and the centre point of the 80 metre inverted vee. See Photo 4.

The main issue with the squid pole was how to mount it without it being damaged. The solution turned out to be two thick plastic plumbing ferrules filed on the inside to slide onto the base section of the squid pole. These ferrules can then be hose clamped to the mount as shown in Photo 2. A small plastic block prevents the squid pole sliding down the mounting post.

Photo 3.

Guying the squid pole required a small plumbing adapter and some filing to allow it to slide down and sit on the fourth squid pole section from the top. Wire was then clamped to the plumbing adapter to make guy rope clip points as shown in Photo 5. Short steel pickets are used to hold the guy wires in place. The squid pole may need to be taped at the joints, especially if guy wires are used.

Photo 4.

Photo 5.

Attaching a VHF/UHF antenna to the squid pole required dropping the top three sections inside the squid pole and using a plumbing fitting adaptor as shown in Photos 6 and 7.

Mounting the squid pole away from the car in the end turned out to be very simple. See Photo 8.

Photo 6.

It required the use of a medium length steel picket, hose clamps and a small bracket. The counterpoise can also be connected to the steel picket.

The outcome from the project is a number of antenna mount options that can be used according to the specific need. This solution could be adapted for virtually any car situation.

Photo 7.

Photo 8.

80 Years in amateur radio and still active

Bill Magnusson VK3JT

Photo 1: George VK3LA with his smile.

Three score years and ten is man's allotted time in this world – or so they say. There are some who exceed this and many who fall short. Then there are people like our friend George Bollas VK3LA who, at 95 years of age, is still an active radio amateur. First licensed in April, 1931 soon after duxing his old school, George studied Morse code with Lou Harding VK3LW, then a ferry-man on the Yarra and another of the well remembered pioneer Melbourne amateurs. They both passed the newly established AOCP with colours flying. That was 80 years ago, yes – 80, and George is still going strong, still active in areas of amateur radio that test many others. His transmitting days were interrupted as were all VK amateurs by the dark days of WWII, but that aside George's callsign VK3LA has been continually active since 1931. His most recent exploit was the successful completion of a batch of three 23 cm 2C39 linear amplifiers to complement his already extensive ATV station.

Putting this tribute together are just three of George's uncountable amateur radio friends. We are Ian Downie VK3XID, Richard Robbins VK3RR and myself as scribe, Bill Magnusson VK3JT. I have known the Bollas family since as a 14 year old lad I rode my bicycle the several blocks from my home to Marystone Street, Yarraville, guided by George's home made wooden tower and the three-element Yagi that he carried by hand to the top. They were landmarks in the district for decades. It was then that I first received the unforgettable Bollas welcome. Richard upon his arrival in Australia as a young science teacher in 1966 and Ian and countless others have experienced the same. It was like being welcomed into their family.

Back then George ran the family confectionary business in Chambers St., Footscray. It was a local icon for almost 80 years where the public were welcome to come for a chat and to watch the chocolates being made by hand. He did not neglect his radio during the day and at lunchtimes George could be heard working what today is considered exotic DX, like the Maldive Islands on his Type-A Mark III radio. His

Photo 2: George VK3LA's 23 cm amplifier.

antenna was strung across several small terrace houses in Chambers Street and he shared it with Don McKenzie VK3ALQ who ran an FS-6 transceiver and lived nearby. Old timers will remember these radios as WWII surplus.

In the 1950s and 60s George was passionate about working DX, but not in today's style of 'you are 5 by 9 please QSL'. His interest has always been in rag-chewing and getting to know the other person, their culture and interests outside amateur radio. Even then you needed a pretty good radio station to do that. During those 20 metre halcyon days, his young son Raymond acted as his QSL manager and stamp collector. In DXing, as in so many other endeavours, George had his own style of operation. His treasured Collins 'S' line and wide spaced Yagi allowed him to forge many firm friendships overseas in those years. A number of them were to sample and enjoy the Bollas welcome on visiting Australia.

George's interest in ATV, like so many other amateurs was sparked by the efforts of the Melbourne ATV Roadshow Gang, Ronnie Harrison VK3AHJ, Ian Davis VK3ATY and Howard Rider VK3ZJY, who as a group were largely responsible for the upsurge of ATV activity in Melbourne in the 1970s. George's green thumbs and, as Richard recalls, his '200 degree' soldering fingers came to the fore and he soon had one of the more substantial ATV signals on 70 cm. His interest continues today almost unabated. He and Bill Lyon VK3KBL and their wives Daisy and Jan became a firm foursome, Bill and George's interest in VHF and in particular ATV binding that friendship. In a similar way Daisy and Jan shared gardening interests that continued for decades.

Not one to be left out George joined Richard and myself in our annual ATV/satellite DXpeditions to Mt Skene on more than one occasion during the 1980s. His advice on antennas and ATV in general was most welcome as we were both novices in the area. George and our old cobber Ian Berwick VK3ALZ developed the loop Yagi into a real power house antenna and for years it became the beam of choice for ATVers in Melbourne. His ready advice helped well known ATVers like Phillip Portelli VK3AWG and Tony Formosa VK3AAZ into their area of choice. Tony and Phillip reciprocated by helping George with HF antenna work. Recently Trevor Merton VK3KAP of Dromana sourced the 2C39 valves for George's latest project. We know there were dozens of others, please forgive us if we have left someone out.

A long time member and supporter of the WIA and more recently of the RAAF Williams Radio Club near his current Hopper's Crossing residence, George has never been far from the centre of things technically, but then as now he preferred to stay in the background and mentor people as they came forward. He was always there with advice when I was a 14 year old lad, when Richard was new to Australian culture and when Ian as a newlywed novice ham was seeking guidance in ATV. At 95 years of age with an incredible 80 years of on-air experience behind him, he is still in there today.

George, this is for you. As just three of your hundreds of amateur radio friends, please accept from Ian, Richard and Bill our heartfelt thanks for your welcoming friendship over decades. Hearty congratulations on reaching that remarkable 80 years in amateur radio milestone that few of us can hope to emulate. Well done OM!

Contributed by Richard Robbins VK3RR, Ian Downie VK3XID and Bill Magnusson VK3JT.

Photo 3: George VK3LA with the 2C39.

Don't forget:

National Field Day on 17 April 2011

World Telecommunication Day on 17 May

Ross Hull Memorial VHF-UHF Contest 2011: Results

John Martin VK3KM, contest manager

Here are the results for the 2011 contest. The number of logs continues to be small, but this year's entrants have shown that it is possible to make up very healthy scores in several different ways.

Most noteworthy is the fact that after some years of low activity in VK6, we have a VK6 winner for the first time since 1984. Congratulations to Barrie Burns VK6ADI. In second place came Ted Thrift VK2ARA. Barrie and Ted have both shown what can be done with some enthusiastic operating on 6 metres. We may be only at the start of the next solar cycle, but 6 metres is certainly alive and well.

Coming third in Section A, Wayne Pearson VK5APN has accumulated the top 2 metre score with EME contacts. Top score on 1296 went to Kirk Mercer VK2MER, and Peter Freeman VK3PF gained a very healthy score on the higher bands.

In the digital modes section, the winner this year was Phil Moat VK4CDI with a mixture of terrestrial and EME contacts to 11 countries. He is followed by Rex Moncur VK7MO with a very healthy log of mostly terrestrial contacts.

Congratulations to all.

Call	Name	50 MHz	144 MHz	432 MHz	1296 MHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	TOTAL
Section A: All Bands										
VK6ADI	Barrie Burns	**5226**	48	45	-	-	-	-	-	5319
VK2ARA	Ted Thrift	2772	360	235	-	-	-	-	-	3367
VK5APN	Wayne Pearson	-	**2310**	-	-	-	-	-	-	2310
VK2AH	Brian Farrar	972	783	220	-	-	-	-	-	1975
VK2MER	Kirk Mercer	188	618	**520**	152	-	-	-	-	1478
VK2TG	Robert Demkiw	1110	312	10	16	-	-	-	-	1448
VK3HY	Gavin Brain	726	279	305	80	-	-	-	-	1390
VK7MO	Rex Moncur	-	816	265	154	-	-	-	140	1375
VK3FEMT	Stewart Wilson	-	831	455	-	-	-	-	-	1286
VK3PF	Peter Freeman	98	210	170	**320**	**120**	**80**	**80**	**170**	1248
VK3UH	Ken Brown	-	48	35	16	-	-	-	-	99
Section B: Digital modes, All Bands										
VK4CDI	Phil Moat	-	960	**580**	**9610**	-	-	-	-	11150
VK7MO	Rex Moncur	-	**2137**	75	2569	-	-	-	-	4781
VK1WJ	Waldis Jirgens	-	254	-	-	-	-	-	-	254

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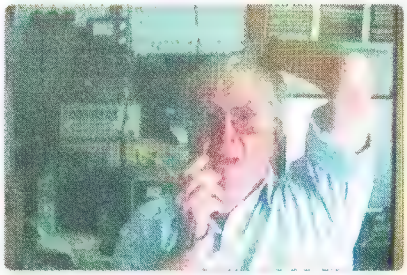

Test pattern and Peter VK3BFG - DVB-T signals received by Winston VK7EM (Pictures courtesy of VK7EM).

Digital Amateur Television: VK3 to VK7

On the evening of 23 February 2011, DVB-T digital amateur television signals were received by Winston VK7EM in Penguin (NW VK7) from the Olinda ATV repeater on Mount Dandenong. Winston noticed Channel 31 Community TV from VK3 gaining strength and then VK3RTV decoded into colour bars. Liaison on the ATV frequency 147.4 MHz led to an "on-screen" conversation with Peter VK3BFG and Neil VK3BCU, John VK3DQ, and Jack VK3WWW joining in. John VK3DQ came in via VK3RTV1 and Peter VK3BFG on VK3RTV2, and both in contact with each other. Some short videos were shown and as VK3RTV signals faded, Rob VK3TRX beamed a 1250 MHz analogue ATV signal toward Winston and was received noise free. Congratulations to Winston VK7EM, Peter VK3BFG and the VK3 ATV group. I was reminded that Winston still holds the 70 cm analogue ATV record of 412.9 km set back in 1972 with Peter who is now VK3RV.

Digital Microwave Records Tumble

Following on from last month's report of the activation in VK7 of grid squares - QE27 and QF48 by Rex VK7MO, the microwave DXpedition has continued into VK2 and VK3. 10 GHz digital records were set on 18 February 2011 with VK3HZ over a distance 461.9 km and then this was broken again on 22 February between VK3HZ/3 and VK7MO/2 over a distance of 535.1 km. Congratulations to Rex and David.

Successful ACMA Field Operation

Roger VK7HT let me know that over the last few months there has been a strong signal moving around 146.00 to 147.500 which could be heard around Hobart and made two metres unusable in the suburb of Mt Nelson. The ACMA were called and their prompt and considerable investigative work located the offending data transmitter and shut it down. A big thank you to the ACMA.

Northern Tasmania Amateur Radio Club

NTARC office holders for 2011 include President - Peter VK7PL, Vice President - Peter VK7KPC, Secretary - Jason VK7ZJA, Treasurer - Idris VK7ZIR, Committee Member - Peter, VK7PD and Public Officer - Bill VK7MX.

A repeater repair party consisting of Joe VK7JG, Peter VK7PD, Winston VK7EM, Kerry VK7PAK, Lucas VK7FLSB and Dion trekked up to St Valentines Peak in the North-West. This is a 90 minute hike to the top and Joe commenting that the wind was so strong it pinned him to the tower! Later on the other side of the state in the NE, Joe VK7JG, Peter VK7PD and Allen VK7AN made a trek to VK7RBH on Ben Lomond for maintenance to batteries and solar panels.

Cradle Coast Amateur Radio Club

Congratulations to Steve VK7FUBI, Eric VK7NFI, Wayne VK7NET, and Scott VK7NWT who recently passed their Foundation and upgrade assessments. We look forward to hearing them on air soon with their new calls. Winston VK7EM let me know that the Tuesday evening NW rebroadcasts of the WIA National News and VK7 Regional News broadcasts has moved to one hour earlier and will start at 8:00 pm on the Mt Duncan repeater on 146.625 MHz.

North West Tasmanian Amateur TeleVision Group

The AGM of NWTATVG was held on February 5 and the office holders for 2011 include President - Tony VK7AX, Vice President - Jim VK7JH, Secretary - Steve VK7EQ, Treasurer - Ivan VK7XL, Exec Officer - Neil VK7ZNX.

Radio and Electronics Association of Southern Tasmania

The REAST office holders for 2011 are President - Ken VK7DY, Vice President - Justin VK7TW, Secretary - Tony VK7VKT, Treasurer - Alan VK7KAJ and committee members - Warren VK7FEET and Frank VK7FINF. Our Digital ATV Experimenter's night continues to be well attended. The author must thank Peter VK3BFG for his recent hospitality and ATV information sharing during a recent trip to the Centre Victoria Radio Fest at Kyneton.

Links have been established that I hope will see the two ATV communities sharing on a more regular basis via streaming and library footage. Content over the last month has included optical transceivers, 5.8 GHz ISM AV transmitter and receiver modules, class E amplifiers, Arduino microcontroller devices and Antarctic travel videos from Danish amateurs Magda ON3AX and Willy ON5AX. We recently featured two short 15 minute videos on the Kyneton hamfest and the VK3RTV repeater and ATV experimenters.

City of Brisbane Radio Society
– and their VK100WIA adventure

John Morris VK4MJF

Photo 1: The CBRS club logo.

Our VK100WIA call sign weekend was held on 2, 3 and 4 October. We would like to thank Ian VK4FABD, James VK4FJLY, John VK4MJF, David VK4KSY, Eric VK4NEF, Mick VK4NE and Ron VK4CRO for helping out over the weekend. The weekend was a great success and was enjoyed by everyone. Also, a big thank you to Ron VK4CRO for letting us use his property for the event. Also thanks to all the other club members for calling in and getting your name in the VK100WIA log. Thanks also to the visitors that came and gave us moral support over the weekend. Some individual member reports for the weekend follow:

Photo 2: James VK4FJLY.

Report from James VK4 FJLY

'I arrived at Ron's VK4CRO place on the Saturday afternoon of the club's VK100WIA weekend and I spent a few hours helping to operate a couple of the HF bands. 20 metres was alive in the evening with contest activity from the Oceania DX Contest, which was also on during this time. There was a lot to be heard on the (very impressive) 40 metre setup as well. I made a few good contacts on 40 metres whilst getting used to using a foot switch and headset. This was my first time on HF and I must say I really enjoyed it. I cannot wait to get on HF myself now!'

Photo 3: John VK4MJF.

Report from John VK4MJF

'Well, what can I say, after all the work done to antennas and last minute adjustments done by all, I arrived on Saturday, early in the morning, in my radio van and set up at the CRO's QTH, with the trusty TS-520D in the Marriott (the chook shed) and the FT-857D in the van. As the first contacts were made and we all settled in, the bulk of the operators stepped up to the plate. With the arrival of VK4NEF's radio gear, and being added to the pot, soon we all were making contacts to all points of the compass. Other than living in the chook shed for about three days, I personally enjoyed the experience with the company of good fellowship, with like radio nuts, and the fact I spoke all round the world on Monday, from Alaska, Texas, Europe, China and others without leaving the chair, what more could one ask for. The weather was not kind to us but who really cared. We were also looked after by NEF the chef extraordinaire, and Ron and Jenny with some oriental flavours (dim sims) as well. I left and, keeping in mind we all had very little sleep for the time period, smelt a bit off and looked a bit off. With that thought, I leave you with this, that very soon we have another field day coming to do it all again. Thanks for the memories - VK4MJF.'

Report from Eric VK4NEF

'My thanks go to Ron VK4CRO and XYL Jenny for hosting CBRS with VK100WIA at their home. During the setup stage there was Ron VK4CRO, John VK4MJF, Mick VK4NE, Ian VK4FABD, Eric VK4NEF and John VK4HBG attend on that morning of 18 September when we were assembling the spider quad. All were lending a hand with the antennas to be used on our block period. The weather for our three days was a mixed bag, sunny, showers, and a storm on Monday night. We enjoyed long path QSOs on 20 metres to Europe during this time and Antarctica worked us and had fun on the 80 metre DX

Photo 4: Eric VK4NEF.

window working VK, ZL, W6, JA, ON and SM stations. The W6 was worked again seven hours later on 15 metres and said that we had a good signal on the low bands the previous night. We were pleasantly surprised with the good audio reports received when using the TS-480 and a Heil Proset with a HC4 microphone insert.

Total QSOs were 702, daily QSO breakdown being 307, 155 and on the Monday 140. Having had the time to now look up other Clubs QSO totals, which range from 69 to 1000 odd, most falling in the 200 to 400 QSO range, our total is about the fifth highest number of contacts. Therefore more amateurs had the opportunity to get in the log from our effort than most previous block operations. Operators over the three days put in a mighty effort that we can all be very proud off. We must not forget our XYLs who gave us this time so that we could help other hams from around the world make contact with VK100WIA in celebrating 100 years of the Wireless Institute of Australia, as this does not happen every day but once in a life time.'

Report from Ian VK4 FABD

'I arrived at Ron's home on Saturday morning not knowing what to expect. There was some fine adjustment needed on the 40 metre dipole that morning, in the rain! Got the new line over the tree and moved the antenna about six metres (20 feet) further down the yard. 0000 UTC came around so we decided to jump in the deep end and just go for it. Started my stint on 40 metres by calling CQ 40 CQ 40 VK100WIA listening. I did not have to wait long for the first call and they rolled in thick and fast after that. Apart from the rain pouring down and making it hard to hear the Kenwood TS-520D

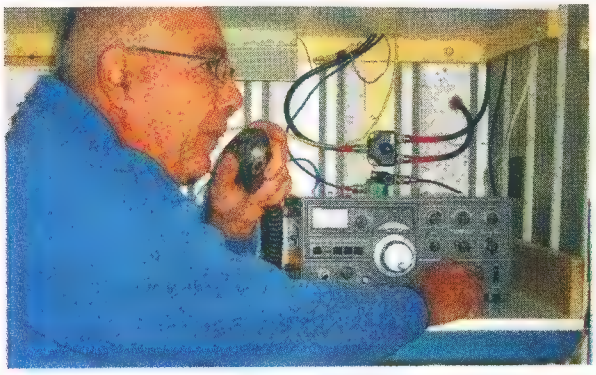

Photo 5: Ian VK4FABD.

radio of Mick's in the Marriott (the aforementioned chook shed) the radio was working well. I made contacts from north Queensland down to Tasmania and everywhere in between. I would like to give a big thanks to Ron and his wife for holding the event. And to all members that were able to give their time. I would also like to thank all members that made a contact with the special call that weekend. Without their help none of this would have been possible.'

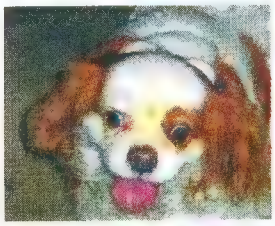

Photo 6: Chester, who we think was the mascot!

Photo 7: Ron VK4CRO.

Report from Mick (VK4 NE)

'I worked from my QTH with the VK100WIA call sign. I made a few contacts on two metres. There were not many stations available for contacts, but I still had fun. Regards Mick.'

The equipment used over the three day weekend was:

Radio equipment

Elecraft K3, Kenwood TS-520D, Kenwood TS-480SAT, FT-857D in John's VK4MJF van and an FT-857D in David's VK4KSY van.

Antennas

We had a 80 metre and 40 metre dipole, a two element Spider Quad for 10-15-20 metres, a seven element Yagi for 6 metres, and for two metres a 12 element Yagi and a 2 m/70 cm vertical.

Amplifier

Acom 1000.

Photo 8: The spider beam used for many of the HF QSOs.

Gridsquare Standings at 11 February 2011

Guy Fletcher VK2KU

144 MHz	Terrestrial	
VK2FLR	Mike	116
VK3NX	Charlie	107
VK2KU	Guy	102
VK3PF	Peter	90
VK3HZ	David	89
VK2ZT	Steve	82 SSB
VK5AKK	Phil	82 SSB
VK2ZAB	Gordon	78 SSB
VK2DVZ	Ross	77 SSB
VK3PY	Chas	77 SSB
VK3BDL	Mike	68 SSB
VK3QM	David	66 SSB
VK2EI	Neil	65
VK7MO	Rex	65
VK3BJM	Barry	64 SSB
VK2AMS	Mark	62 SSB
VK2TK	John	62
VK2MER	Kirk	61 SSB
VK3II	Jim	60
VK4FNQ	John	59
VK3II	Jim	58 SSB
VK3WRE	Ralph	58 SSB
VK4FNQ	John	58 SSB
VK3PF	Peter	56 SSB
VK5BC/p	Brian	55 SSB
VK5BC	Brian	53 SSB
VK3ZLS	Les	51 SSB
VK3HY	Gavin	49
VK4CDI	Phil	49
VK3VG	Trevor	46 SSB
VK7MO	Rex	46 SSB
VK3AKK	Ken	45 SSB
VK4CDI	Phil	45 SSB
VK7MO	Rex	45 Digi
VK4KZR	Rod	43
VK4TJ	John	41 SSB
VK3EJ	Gordon	40 SSB
VK3PF	Peter	40 Digi
ZL3TY	Bob	37
VK3UH	Ken	36
VK2TK	John	35 SSB
VK2KOL	Colin	34 SSB
VK6HK	Don	34
VK2TG	Bob	33 SSB
VK3ZUX	Denis	33 SSB
VK1DA/p	Andrew	31
VK1WJ	Waldis	28
VK3II	Jim	28 Digi
VK2TK	John	27 Digi
VK1WJ	Waldis	23 Digi
VK3TLW	Mark	23 SSB
VK4CDI	Phil	23 Digi
VK4EME	Allan	23
VK3ALB/p	GARC Team	22 SSB
VK3BG	Ed	22 SSB
VK3ECH	Rob	20 SSB
VK6KZ	Wally	20
VK2ZT	Steve	19 Digi
VK4EME	Allan	19 SSB
VK3AL	Alan	18 SSB
VK6KZ/p	Wally	16
VK2EI	Neil	12 Digi
VK4EME	Allan	12 Digi
VK5APN	Wayne	12
VK2KOL	Colin	9 Digi
VK2DVZ	Ross	8 Digi
VK1WJ	Waldis	7 SSB
VK2AMS	Mark	7 Digi
VK5APN	Wayne	7 Digi
VK5APN	Wayne	6 SSB
VK6HK	Don	6 Digi
VK1WJ	Waldis	5 CW
VK4AE	Denis	5 SSB
VK4JAZ	Grant	4 FM
VK2GG	Dan	3
VK3QM	David	1 Digi
VK4FNQ	John	1 FM

144 MHz	EME	
VK2KU	Guy	426
VK2KU	Guy	412 Digi
ZL3TY	Bob	392
VK3AXH	Ian	265 Digi
VK4CDI	Phil	225 Digi
VK7MO	Rex	157 Digi
VK5APN	Wayne	155
VK5APN	Wayne	153 Digi
VK2FLR	Mike	120
VK2KU	Guy	43 CW
VK3DDU	Paul	39 Digi
VK2ZT	Steve	28 Digi
VK3HZ	David	19
VK3II	Jim	16 Digi
VK2DVZ	Ross	6 Digi
VK3NX	Charlie	5 CW
VK4EME	Allan	5 Digi
VK5APN	Wayne	5 CW
VK3AXH	Ian	3 CW
VK2DVZ	Ross	2 CW
VK3AXH	Ian	1 SSB

432 MHz	Terrestrial	
VK2ZAB	Gordon	57 SSB
VK3PY	Chas	51 SSB
VK3NX	Charlie	50 SSB
VK3QM	David	50 SSB
VK3ZLS	Les	40 SSB
VK3BJM	Barry	39 SSB
VK3HZ	David	39
VK5AKK	Phil	39 SSB
VK2KU	Guy	38
VK2DVZ	Ross	34 SSB
VK2ZT	Steve	34 SSB
VK3BDL	Mike	33 SSB
VK3WRE	Ralph	33 SSB
VK3PF	Peter	32
VK3PF	Peter	30 SSB
VK5BC	Brian	26 SSB
VK1DA/p	Andrew	24
VK2MER	Kirk	24 SSB
VK3VG	Trevor	20 SSB
VK5BC/p	Brian	20 SSB
VK7MO	Rex	20
VK2AMS	Mark	18 SSB
VK2TK	John	18
VK3ALB/p	GARC Team	18 SSB
VK7MO	Rex	18 SSB
VK2TK	John	17 SSB
VK3AKK	Ken	15 SSB
VK3BG	Ed	15 SSB
VK3TLW	Mark	15 SSB
VK3ZUX	Denis	15 SSB
VK4KZR	Rod	15
VK4CDI	Phil	14
VK4CDI	Phil	14 SSB
VK6KZ	Wally	13
VK2EI	Neil	12 SSB
VK2KOL	Colin	12 SSB
VK4TJ	John	11 SSB
VK2TG	Bob	10 SSB
VK3AL	Alan	10 SSB
VK3ECH	Rob	10 SSB
VK4FNQ	John	10 SSB
VK6KZ/p	Wally	8
VK3UH	Ken	7
VK7MO	Rex	7 Digi
VK4EME	Allan	6 SSB
VK1WJ	Waldis	5 SSB
VK2DVZ	Ross	4 Digi
VK2ZT	Steve	4 Digi
VK3PF	Peter	4 Digi
VK3PY	Chas	4 Digi
VK3QM	David	4 Digi
VK4CDI	Phil	4 Digi
VK4AIG	Denis	3 SSB
VK4JAZ	Grant	3 FM
VK2AMS	Mark	2 Digi
VK2GG	Dan	2
VK2KOL	Colin	1 Digi
VK2TK	John	1 Digi

432 MHz	EME	
VK4EME	Allan	42
VK4EME	Allan	39 Digi
VK4CDI	Phil	34 Digi
VK7MO	Rex	10

VK7MO	Rex	9 Digi
VK4EME	Allan	6 CW
VK3NX	Charlie	5 CW
VK3AXH	Ian	4 Digi
VK3HZ	David	4
VK2ZT	Steve	2 Digi
VK5BC	Brian	1
1296 MHz	**Terrestrial**	
VK3PY	Chas	41 SSB
VK3QM	David	41 SSB
VK3NX	Charlie	37 SSB
VK2ZAB	Gordon	29 SSB
VK2DVZ	Ross	26 SSB
VK3ZLS	Les	26 SSB
VK2KU	Guy	25
VK5AKK	Phil	25 SSB
VK3BJM	Barry	22 SSB
VK3PF	Peter	22
VK3PF	Peter	20 SSB
VK3WRE	Ralph	20 SSB
VK3KWA	John	19
VK3BDL	Mike	18 SSB
VK3HZ	David	18
VK3ALB/p	GARC Team	16 SSB
VK2ZT	Steve	13 SSB
VK3VG	Trevor	12 SSB
VK4KZR	Rod	12
VK3BG	Ed	11 SSB
VK5BC	Brian	11 SSB
VK7MO	Rex	11 SSB
VK1DA/p	Andrew	10
VK2TK	John	10 SSB
VK5BC/p	Brian	9 SSB
VK2AMS	Mark	8 SSB
VK3TLW	Mark	8 SSB
VK3AL	Alan	7 SSB
VK3UH	Ken	7
VK2MER	Kirk	6
VK3ECH	Rob	6 SSB
VK3ZUX	Denis	5 SSB
VK4CDI	Phil	5
VK4CDI	Phil	5 SSB
VK4TJ	John	5 SSB
VK6KZ/p	Wally	5
VK6KZ	Wally	4
VK4EME	Allan	3 SSB
VK7MO	Rex	3 Digi
VK2GG	Dan	2
VK3PF	Peter	2 Digi
VK3QM	David	2 Digi
VK4AIG	Denis	2 SSB
VK4CDI	Phil	2 Digi
VK4FNQ	John	2 SSB
VK2DVZ	Ross	1 Digi
VK2EI	Neil	1 SSB
VK2ZT	Steve	1 Digi
ZL3TY	Bob	1 SSB
1296 MHz	**EME**	
VK4CDI	Phil	59
VK3NX	Charlie	54 CW

VK4CDI	Phil	49 Digi
VK7MO	Rex	41
VK7MO	Rex	36 Digi
VK4CDI	Phil	15 CW
2.4 GHz	**Terrestrial**	
VK3PY	Chas	18 SSB
VK3NX	Charlie	17 SSB
VK3QM	David	17 SSB
VK3AKK	Ken	15 SSB
VK3WRE	Ralph	11 SSB
VK3ALB/p	GARC Team	7 SSB
VK3PF	Peter	7 SSB
VK3HZ	David	5
VK4KZR	Rod	4
VK6KZ	Wally	4
VK3BJM	Barry	3 SSB
VK1DA/p	Andrew	2
VK2AMS	Mark	2 SSB
VK2EI	Neil	2 SSB
VK2GG	Dan	2
VK3PF	Peter	2 Digi
VK2DVZ	Ross	1 SSB
VK3BG	Ed	1 SSB
VK3TLW	Mark	1 SSB
VK3ZUX	Denis	1 SSB
2.4 GHz	**EME**	
VK3NX	Charlie	37 CW
VK7MO	Rex	14
VK7MO	Rex	10 Digi
3.4 GHz	**Terrestrial**	
VK3NX	Charlie	14 SSB
VK3QM	David	14 SSB
VK3WRE	Ralph	8 SSB
VK3PF	Peter	6 SSB
VK6KZ	Wally	4
VK2EI	Neil	1 SSB
VK2GG	Dan	1
3.4 GHz	**EME**	
VK3NX	Charlie	16 CW
5.7 GHz	**Terrestrial**	
VK3NX	Charlie	14 SSB
VK3QM	David	12 SSB
VK3PY	Chas	9 SSB
VK3WRE	Ralph	9 SSB
VK3PF	Peter	7 SSB
VK3ALB/p	GARC Team	6 SSB
VK6KZ	Wally	4
VK2GG	Dan	3
VK3BJM	Barry	2 SSB
VK3PF	Peter	2 Digi
VK6BHT	Neil	2 SSB
VK2EI	Neil	1 SSB
VK3ZUX	Denis	1 SSB
5.7 GHz	**EME**	
VK3NX	Charlie	23 CW

10 GHz	**Terrestrial**	
VK3HZ	David	44
VK3HZ	David	20 SSB
VK3PY	Chas	17 SSB
VK3AKK	Ken	16 SSB
VK3QM	David	15 SSB
VK3NX	Charlie	14 SSB
VK3PF	Peter	11 SSB
VK3WRE	Ralph	11 SSB
VK6BHT	Neil	9 SSB
VK3ALB/p	GARC Team	7 SSB
VK2EI	Neil	6
VK6KZ	Wally	5
VK2EI	Neil	3 Digi
VK3TLW	Mark	3 SSB
VK7MO	Rex	3
VK2GG	Dan	2
VK3BJM	Barry	2 SSB
VK3UH	Ken	2
VK3ZUX	Denis	2 SSB
VK4KZR	Rod	2
VK1DA/p	Andrew	1
VK2AMS	Mark	1 SSB
VK3BG	Ed	1 SSB
VK3NX	Charlie	1 Digi
10 GHz	**EME**	
VK3NX	Charlie	15 CW
24 GHz	**Terrestrial**	
VK3NX	Charlie	4 SSB
VK3QM	David	3 SSB
VK6BHT	Neil	3 SSB
VK2EI	Neil	2 SSB
VK2GG	Dan	2
VK6KZ	Wally	2
VK3WRE	Ralph	1 SSB
47 GHz	**Terrestrial**	
VK3NX	Charlie	4 SSB
VK3QM	David	4 SSB
VK2GG	Dan	2
474 THz		
VK3WRE	Ralph	3
VK3HZ	David	2
VK7MO	Rex	2
VK7MO	Rex	2 Digi
VK7TW	Justin	2
VK7TW	Justin	1 Digi

Additions, updates and requests for the guidelines to Guy VK2KU.

The guidelines (and the latest League Table) are also available on the VK VHF DX Site at *http://vhfdx.radiocorner.net* - click on Gridsquares.

Next update of this table will close on or about 17 June 2011.

Stations who do not confirm their status for more than 12 months may be dropped from the table.

DX - News & Views

John Bazley VK4OQ
john.bazley@bigpond.com

Recently DXers have had a number of new entities with the four new ones created by PJ2, PJ4, PJ6 and PJ7 towards the end of last year. Now **Southern Sudan** is set to formally declare its independence on 9 July. When Southern Sudan meets the current DXCC criteria there is no doubt it will be a new Entity.

Two DXpeditions have already been announced.

First: The group consisting of Alex 5Z4DZ (PA3DZN), Robert S53R and Martti OH2BH have opened discussions with Southern Sudan's institutions and other related parties in the region. The group will also be holding discussions relating to the provision of potential help to Southern Sudan's prospective Amateur Radio Service with several entities, such as NCDXF, in addition to obtaining resources from Japan. Updates will be released from time to time between now and July, and it is predicted that prospects for a new DXCC country are only a few months away with preparations well underway.

Second: Paul N6PSE announced that the Intrepid-DX Group and DX Friends are planning a joint operation "to take place on or after 9 July 2011". This is intended to be "a major effort, with a target of more than 150,000 QSOs. There will be up to ten stations on the air, using amplifiers along with high performance beams and vertical dipole arrays, 24 hours a day, for almost three weeks". While continuing "to move forward in our planning with representatives of the new Southern Sudan Government and the ITU/IARU", they "are not seeking donations or support until we have an official operating permit/ licence in hand". The website for the DXpedition is at *www.dxfriends.com/ SouthernSudan2011/*

Still on the subject of DXpeditions, it is interesting to look at the statistics from the last three major operations – VP8/Orkney, S9DX and TJ9PF. As all three operations were using ClubLog. When the QSO data was uploaded not only were statistics available but also data on the times and bands that individual countries were working that particular operation.

Bands	160	80	40	30	20	17	15	12	10
VP8/O OC350	4	8	70	65	151	43	9	0	0
S9DX OC173	1	3	34	28	34	29	29	9	6
TJ9PF OC226	3	0	16	31	102	22	26	17	9

The total number of different VKs that worked each DXpedition were:

VP8/O 55, **S9DX** 32, **TJ9PF** 60

A great effort from all three DXpeditions.

Now to general DX News.

P29CW from Kunga in the Western Province of **Papua New Guinea** is the callsign for Allan VK2GR and Josette VK2FXGR, February until September. They will be doing voluntary medical work with Australian Doctors International, but plan to do some operating on 80-10 m CW, RTTY and SSB, in their spare time. QSL via VK2IR and eQSL. Logs will be on *http://www.p29cw.blogspot.com/*

Eddie VK4AN is one of the organizers of an upcoming DXpedition to **Nauru** (C2). Preliminary discussions with Nauruan authorities have taken place and they expect to receive word of their callsign very soon. They also anticipate authorization for 60 metres. Anyone interested in going for a two week trip, which is expected in mid to late 2011, should contact Eddie.

Fernando 6W/EA1BT plans to operate May 3-12 from **Senegal**.

P40A will be Tim WD9DZV in **Aruba** March 8-13, "holiday style," most bands and modes. QSL to WD9DZV.

D2CQ from **Angola** is back on the air. Mike CT1IUA says Paulo was off for a year after having some gear stolen from his QTH. He will be back on with a G3TXQ Hexbeam and will be getting on 20-6 m SSB only. He plans to put up a dipole for 80 and 40 soon. He does sometimes QRT suddenly; power often goes out unexpectedly for several hours at a time. Paolo's home call in Portugal is CT1ITZ.

HI3/KL7JR and HI3/WL7MY will be on 80-10 m from the **Dominican Republic** March 1 until June. They will have various wire antennas from their beach location, with the main antenna being a 40-10 m vertical loop. You may request skeds at KL7JR@yahoo.com QSL via KL7JR.

The upcoming **Canton Island** DXpedition in April 2011 has a website currently under construction at *http://www.t31a.com/* Their QRZ.COM page says a 12 man international team is expected to be QRV for nine days. Plans are to be QRV as T31A with six stations. They will be available on 1.8 through 28 MHz. The NCDXF Website gives the dates as April 15-24.

Dov 9N7DX (op 4Z4DX) and his XYL Anat 9N7YL will be on the air from **Nepal** April 13-30. Look for them on 20, 15, 10 and 6, mostly CW, RTTY and PSK31. Dov plans to put together a bigger operation for November to mark his 60th birthday and 45 years in ham radio. QSL both callsigns to 4Z4DX. *http://www.mdxc.org/9n7dx/* or *http://www.qrz.co.il/home.php?page=9n7dx*

Nick G3RWF will be active again as 5X1NH from **Uganda** from 19 February for eight weeks. He will operate CW, SSB and RTTY on 80-10 metres (neither 160 nor 6 metres). QSL via home call, direct or bureau, and LoTW.

G3TBK's trip to VP2M and V2 has been postponed until at least April. Dave will, though, operate

as J88DR in **St. Vincent** February 16-March 14 including the ARRL DX CW and SSB contests and the RSGB Commonwealth Contest, "BERU." He will take a quick trip to J6 also, between the two ARRL contests, but will probably not get on the air. Dave does consultant work in these places. He holds the callsigns G3TBK, J88DR, VP2MDC and V29TBK.

The Northern California DX Club is publicizing its 62nd Annual International DX Convention, which is April 15-17 in Visalia, California. You can register at *http://www.dxconvention.org/*

Special callsigns 4X20HC and 4Z20HC will be in use from **Israel** between 1 February and 30 April to celebrate the 20th anniversary of the Holyland Contest. QSL via 4Z4TL. This year's contest will be held on 15-16 April; rules can be found on the Israel Amateur Radio Club's website (*www.iarc.org*).

Anne OH2YL is planning a trip to Saint Barthelemy, where she will be QRV as FJ/OH2YL from April 15 to 27. Activity is expected on 1.8 through 28 MHz on CW. More details can be found at *www.fjoh2yl.com* QSL via OH2YL including LoTW.

And finally the current details, released recently, following the usual annual survey of the 'most wanted' 100 Entities. The Table below shows the first 12 with the current standing (2010 when the survey was conducted) and the previous year.

Undoubtedly VP8/O will drop in the table and also, if the rumours materialise, for 7O.

Good luck in the pile-ups!

Special thanks to the authors of *The Daily DX (W3UR), 425 DX News (I1JQJ) and QRZ.DX* for information appearing in this month's DX News & Views. For interested readers you can obtain from W3UR a free two-week trial of The Daily DX from *www.dailydx.com/trial.htm*

2010			2009
#	PREFIX	COUNTRY	#
1	P5	NORTH KOREA	1
2	KP1	NAVASSA	2
3	3Y/B	BOUVET	4
4	7O	YEMEN	5
5	VKØ/H	HEARD ISLAND	6
6	FT5Z	AMSTERDAM	9
7	ZS8	MARION ISLAND	3
8	VP8/S	SOUTH SANDWICH	10
9	FT5W	CROZET	7
10	BS7	SCARBOROUGH	11
11	VP8/O	SOUTH ORKNEY	12
12	HKØ/M	MALPELO	14

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VK5news

Adelaide Hills Amateur Radio Society

Christine Taylor VK5CTY

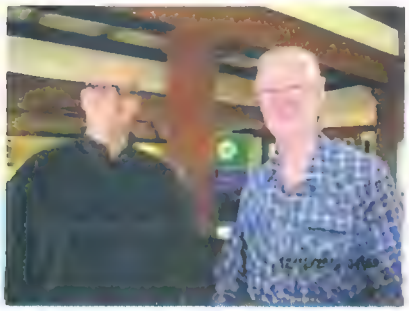


Photo 1: Rob VK5RG with the Golf Club manager.

In December we had our Christmas dinner at which Rob VK5RG won one of the dinners kindly donated by the manager of the Mount Osmond Golf Club.

In January we had a picnic hosted by the Lower Murray ARC at a park beside the river, just beyond the town. Many thanks go to David VK5OV and Meg VK5YG for arranging the venue.

It was an ideal spot and a really lovely day. There was a new Yaesu FT-747 and a squid pole on show but mostly it was just a pleasant picnic.

Photo 2: A view of the picnic spot beside the Murray River.

Photo 2 gives a general view of the area with a glimpse of the river in the background.

Photo 3: Rob, Graham, Leigh, Richard and David at the back with Barry and Sue sitting. Taken at the AHARS AGM.

In February AHARS had the AGM and there is now a new committee –

President David VK5KC, Vice President Leigh VK5KLT, Treasurer Richard VK5ZNC, Secretary Sue VK5AYL, committee members Rob VK5RGA, Graham VK5ZFZ, and Barry VK5ZBQ.

In photo 3 – we have Rob, Graham, Leigh, Richard and David at the back with Barry and Sue sitting.

A short talk by Graham VK5ZFZ followed the AGM. He talked about a number of new tools available for making holes in chassis. Although much modern technology uses surface mounted and other small devices there are still some projects for which you need to make a hole. It is good to have the chance to catch up with new tools.

QRP 101 or the great radio heresy

Norm Lee VK5GI

Yep, that is the title, so all you Old Timers and folks with 2 kW amplifiers go and have a cup of coffee or turn the page, and leave the rest of us to it.

Right, having got rid of the unbelievers, what does QRP mean? Well, it is international code for 'Reduce Power'. It was used mainly by the merchant marine and the CW ops of old. You can operate QRP right now by simply turning the RF power knob on your rig down to the internationally recognised QRP output power of five watts. But, when all about you are running anything from a hundred watts to a zillion watts, why would you bother?

There is a complex philosophy about QRP. The first QRP philosopher was without doubt William of Ockam, born in 1288 and died on 9 April 1348. Note that this was before the era of solid state rigs with bells and whistles so his thoughts are a bit biased towards the simple. He said words to the effect that it is vain to do with more, that which can be done with less. This brought him into direct conflict with Pope John XXII who, forever doing things in a big way (a QRO type of guy), took the hump at this and so poor old Bill died excommunicated in a monastery. A salutary lesson for all of us! However, it is true that under ideal conditions, running five watts will mean that the receiver of your QSO will hear you at only a couple of S points down on that which he would have received you if you were running 100 watts.

Photo 2: The Heathkit HW-8 transceiver.

Photo 1: The Pixie transmitter.

But, I hear you say, that is not really an advantage is it? Well, yes and no. With only five watts you can more easily run your rig on batteries and be more flexible in taking your rig portable. Most QRP rigs will run on nine volt batteries, or a battery pack loaded with AA cells. I have known operators to run tiny rigs from the back of their push-bikes, or take them back-packing up mountains. I have a small QRP rig which I take up to my daughter's place in Brisbane, set it up on the table on her balcony, along with a cold beer, sling a wire antenna into a nearby tree and have a very pleasant afternoon. It runs on a PP9 battery. Try doing that with an FT-101!

On the other hand, if you have limited space at home or are on a limited budget then QRP may be the way for you to get into the amateur radio hobby. You can have your amateur radio station in a small box in a cupboard, and it is probable that it will not cost you a fortune, and at QRP power levels, you will not be causing your neighbours RFI. Again, why run high power when low power will do the job almost as well, and save you heaps on your electricity bill to boot? And, you will get that warm fuzzy glow from knowing that you are doing your bit to 'Save the Environment'.

So what can you expect when you fire up your five watts? As in all radio communications, it depends on your operating technique, on your antenna, and on the conditions prevailing at the time. I have personally worked Japan on my old Argonaut with about two watts on 20 metres sideband. I have worked most of the Australian states with a Pixie on 500 milliwatts CW – refer Photo 1. True, they were worked on a quarter wave 40 metre vertical antenna through a tuner – these days I am getting not quite so good results on my off-centre-fed Windom. None the less, I am getting out and having FUN. That is what it is all about. Be warned though – and this is REALLY important – have patience. QRP is not for everyone. It can be a frustrating exercise calling your call-sign at some exotic DX and being swamped by stateside stations running several kilowatts. It really does need persistence and knowing the old adage that 'Life Is Too Short For QRP'. Be warned.

If you are starting from scratch and want dedicated QRP gear, what is available? Well, TenTec started commercial production of QRP gear in the late 1960s with their little rigs, the PM-1,-2 and -3. I do not recommend them as they are by now at least 40 years old. They followed this with the Argonaut series, the 505, 509 and 515. Again, they are getting long in the tooth (teeth?) and the 505 and 509 may have problems with their permeability tuning circuits. If you can get a 515 for a reasonable price, that may be a good proposition, but these rigs are really

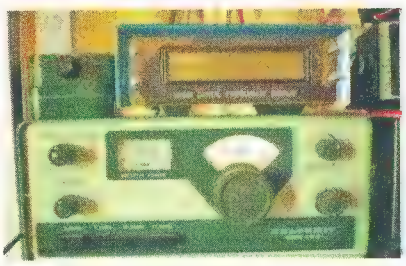


Photo 3: The SW-40 CW transceiver.

only for collectors these days and everyday use may prove problematic. Other rigs from TenTec include the Scout which has plug in coil boxes, and the Argosy series which had user-selected five watt or 50 watt outputs. You can check these out on the internet auction sites.

Heathkit put out many QRP rigs, some single band transmitters, and some transceivers. Their most popular rigs without doubt, though, were the HW series. These were the HW-7, HW-8 and the HW-9. Trust me on this – avoid the HW-7 like the plague. At ANY price. It was a lousy rig, ill-conceived, badly designed. It was supposedly for 15, 20 and 40 metres but the problem was that you got them all at once on the same band! And you got microphonics as well! Keep clear of this rig. The HW-8, on the other hand (refer to Photo 2), is still a delightful rig to use, even though it is now coming up for 30 years old. I have one which I would not part with. According to the ARRL, it is the most modified rig in radio history, and the web is full of modifications for it. Mine has an S/power meter mod, an RIT mod and the LM-386 mod to use a speaker instead of headphones.

Both the HW-7 and HW-8 were direct conversion transceivers, but Heath had its act together by the mid 1980s and put out the HW-9. A magnificent superhet rig for 80, 40, 20 and 15 metres but with an add-on, it could operate on the WARC bands too. They tend to be pricey on eBay but they do come up from time to time. Amongst the 'Big Three' manufacturers, Yaesu offered their FT-7 at 10 watts; Kenwood had the TS-120/130, again putting out about 10 watts. I do not recall Icom putting out a QRP rig but I have an IC-707 which is turned down to 10 watts internally and is built like a brick outhouse. (Icom made the IC-703 – similar in appearance to the IC-706 but HF only and QRP. Ed.)

Currently on offer is the Yaesu FT-817 which comes up frequently on the auction sites and holds fairly high prices. Icom has the IC-703/706. There are others such as Elecraft, but they are current kits which need some expertise to assemble and are fairly expensive. However, I can recommend the SW- series of CW transceivers from SW-Labs. I have assembled one for 40 metres, refer Photo 3, and it is magic! It is not very big, and can be put together over a couple of evenings, and is not expensive. New on the block is a Chinese rig, the HB-1A, which is available already assembled from the builder on eBay. This rig is my favourite, refer Photo 4; and it runs continuous receive from just over 6 MHz through to 16 MHz, so you can listen to all the DX broadcast stations as well.

I hope to be able to put in occasional articles as the time permits on QRP topics, maybe next time on simple antenna tuners and handy portable antennas. In the meanwhile, take the plunge and reduce your power – you will truly be amazed with the results.

Photo 4: The Chinese manufactured HB-1A.

VK6news

Keith Bainbridge VK6RK

I am sad to say this is my last VK6 Notes. I mentioned last month that several factors were restricting me from putting the time and effort into producing these notes every month and it has come to a head this month.

Running two businesses, selling one of them, working 60+ hour weeks and also taking on the WIA Awards Managers job has meant something had to go. I have resigned as President of the NCRG and handed over the writing of these notes to allow me to concentrate on the remainder.

As from next month John Ferrington VK6HZ will take on the role of VK6 Scribe. I hope you will all assist him in every way and flood his email with your updates and information. It has become increasingly difficult to get information from members in this state, with only the Hills group, Geraldton group and recently the Goldfields group providing regular updates. Of course the NCRG has always been a source given my involvement with it, but I have always tried to use NCRG input at a minimum or when all else failed!

So I would ask all of the groups in WA to get behind John and help him produce the notes each month. This is the only official WIA written news report for this wonderful state of ours, and is the only source of information for the many WIA members who do not have email or cannot listen to the weekly news broadcasts.

I have not received any input this month at all so it means I go out on a bit of a low spot, but I do want to thank all who have assisted me over the past three years and I look forward to reading John's new column in the May edition of AR.

Vy 73 and gud dx. Keith VK6RK

AMSAT

David Giles VK5DG
vk5dg@amsat.org

Status reports

This month I have reports on five current missions of interest to amateurs.

ARISSat-1 status

First the good news: ARISSAT-1 is in orbit and functional. Now the bad news: it is still on the International Space Station until the next EVA in July. But this month it is planned to get another test for the 50th anniversary of the first manned mission. Roscosmos announced that ARISSat-1 will be turned on during April 12 for Yuri's night. AMSAT-NA will issue certificates for reception reports. During February ARISSat-1 was connected to one of the ISS' external antennas and powered up for testing. Over the course of a few days reports of its transmissions came in from all over the world.

I managed to hear some CW telemetry despite local interference on 145.919 MHz.

Three new cubesats

As I type three new cubesats are sitting in the Taurus XL rocket awaiting launch from the Vandenburg Air Force base in California. These are KySat-1, Explorer-1 (Prime) and Hermes. The primary mission is NASA's Glory satellite which will observe aerosols in Earth's atmosphere and solar irradiance. Of all the sunlight that reaches Earth only half gets to the surface. A third is reflected back into space by the clouds and oceans, the rest is absorbed by the atmosphere and re-emitted. Glory will be used to make accurate measurements of this solar energy. Unfortunately there was a fault detected in the ground equipment during the launch countdown at the end of February. They expect to get this sorted out and have the rocket launched by the time you read this report.

KySat-1

KySat-1 was designed, built and tested by students at the University of Kentucky and Morehead State University. KySat-1 is a 1U size cubesat that will be used to demonstrate satellites to school students of all ages. Its primary mission is education outreach and this will be delivered using mobile command stations in the US. These command stations will visit schools in Kentucky and give students the chance to command the satellite, upload and download pictures and audio files. KySat-1 has a digital amateur transponder as well as a high speed 2.4 GHz commercial downlink

AMSAT-VK

AMSAT Co-ordinator
Paul Paradigm VK2TXT
email *coordinator@amsat-vk.org*

Group Moderator
Judy Williams VK2TJU
email *secretary@amsat-vk.org*

Website
www.amsat-vk.org

Group site:
group.amsat-vk.org

About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial Amateur Radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft.
AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

AMSAT-VK monthly net
Australian National Satellite net

The net takes place on the second Tuesday of each month at 8.30 pm eastern time, that is 0930 Z or 1030 Z depending on daylight saving. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

In New South Wales
VK2RMP Maddens Plains repeater:146.850 MHz
VK2RIS Saddleback repeater: 146.975 MHz
VK2RBT Mt Boyne Repeater on 146.675 MHz

In Queensland
VK4RIL Laidley repeater on 147.700 MHz
VK4RRC Redcliffe 146.925 MHz IRLP node 6404, EchoLink node 44666

In South Australia
VK5TRM, Loxton on 147.125 MHz
VK5RSC, Mt Terrible on 439.825 MHz IRLP node 6278, Echolink node 399996

In Tasmania
VK7RTV Gawler 6 m. Repeater 53.775 MHz IRLP node 6124
VK7RTV Gawler 2 m. Repeater 146.775 MHz. IRLP node 6616

In the Northern Territory
VK8MA Katherine 146.700 MHz FM

Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT-NA or VK3JED conferences. The net is also available via IRLP reflector number 9558. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email. Frequencies and nodes can change without much notice. Details are put on the AMSAT-VK group site.

Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night.
Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

which will only be used over the main ground stations at the two universities. The uplink frequency is 145.850 MHz and a downlink of 436.790 MHz with a power output of one watt. The two types of transmission are a CW beacon and 1k2 AFSK packet. But there is a catch – the transmission times are infrequent. The CW beacon transmits using 400 Hz modulation of FM signal at 32 wpm but only once every five minutes. The information frame gives KYSAT-1, battery voltage and CPU temperature. The packet transmissions are every 2.5 minutes and give beacon count, voltage, temperature and a status byte. Full details and sample recordings are available at their website (1). The reason for the long delay between transmissions is to keep the power budget positive (i.e. not drain the battery).

In the future KySat-1 may be used by amateurs as an APRS repeater. Any packets received or audio files recorded can be sent to *ssl@engr.uky.edu*

Explorer-1 (Prime)

The Explorer-1 (Prime) (or E1P) satellite is part of a scientific demonstration mission to measure space radiation. Built by students at the Montana State University, it is a 1U cubesat with a Geiger-Müller radiation detector that will detect electrons from the horns of the outer Van Allen belt. The 'horns' are the areas of the belt that come closest to the Earth and are located around 60 degrees latitude. Not to be confused with the 'South American Anomaly' which is an intense zone of radiation over the southern Atlantic Ocean that is part of the inner Van Allen belt. Almost all amateur satellites pass through these radiation zones every day. The International Space Station passes through the edge of the South American Anomaly. A better description can be found at the ESA website (2).

E1P will transmit its data on 437.505 MHz using 1k2 non-coherent FSK. There is a telemetry decoder that runs under windows XP or later that will also send any telemetry received to Montana State University. You will need a TNC for data input. The decoder software is available at their website (3).

E1P was inspired by the original Explorer-1; the first US satellite launched in 1958. Its scientific payload of a cosmic ray sensor (a Geiger counter) helped make the discovery of the inner radiation belt surrounding the Earth. A detailed story of Explorer-1 and the start of the US space program can be found here (4) (click on the Explorer-1 booklet link). Even an amateur radio station gets a mention as the backup receiver to JPL in California.

Hermes

The University of Colorado has built the Hermes cubesat. Like the others, Hermes is a 1U size cubesat and it will be used as a test bed for future missions and to test a high speed S-band transmitter. Its main communications system is based on a stripped down Yaesu VX-7R and a TNC (5). The TNC is based on the 'WhereAVR' APRS tracker (6). It will transmit on 437.425 MHz using 1k2 AFSK. Any reception reports can be sent to *hermescubesat@gmail.com*

Nanosail-D

As reported in last month's *AR*, Nanosail-D was deployed from the FASTSAT satellite. Unfortunately its battery only lasted three days but that was long enough for amateurs to receive 469 packets from 11 countries. Nanosail-D will not be up there for much longer but is easily visible under the right conditions (i.e. after sunset or before sunrise and Nanosail is in sunlight). For those with an interest in photography, there is a competition with cash prizes for the best photo submitted at www.spaceweather.com (I rather liked the photo taken of the space shuttle Discovery nearing the ISS). The best place to look for its present location is at the Nanosail dashboard website (7).

Final Pass

This month we get another chance to try ARISSat-1 as well as celebrate 50 years of manned space flight. I hope to receive some SSTV from it this time. As I wrote in a previous column, cubesats will be utilising higher frequencies for greater data throughput. KySat-1 and Hermes will both be trying S-Band but using 2 m and 70 cm for command and telemetry.

References

(1) *http://ssl.engineering.uky.edu/missions/orbital/kysat1/about-kysat-1/*
(2) *http://www.esa.int/TEC/Space_Environment/SEMEF3T4LZE_0.html*
(3) *http://ssel.montana.edu/e1p/*
(4) *http://www.jpl.nasa.gov/explorer/history/*
(5) *http://spacegrant.colorado.edu/index.php/current-projects/177-cubesat*
(6) *http://garydion.com/projects/whereavr/gov/explorer/history/*
(7) *http://nanosaild.engr.scu.edu/dashboard.htm*

Coming Events

9 April
VK6 – Hills Amateur Radio Group HARGFEST at club rooms Lesmurdie.

18 April
World Amateur Radio Day "Amateur Radio: The first technology-based social network".

10-12 June
VK4 – Far North and North Queensland Amateur Radio Gathering at King Reef Resort Kurrimine Beach.

9-10 July
VK3 – GippsTech 2011 VHF/UHF and microwaves technical conference, Churchill.

16 July
VK3 – Gippsland Gate Radio & Electronics Club Hamfest, Cranbourne.

31 July
VK2/3 – Riverina Field Day, Lavington.

7 August
VK2 – SARCFEST, Lismore.

Contests

Phil Smeaton VK4BAA/VK4KW

Contest Calendar for April 2011 – June 2011

April	3	**QRP Hours**	**CW/PSK31/RTTY/SSB**
	9/10	Japan International DX Contest	CW
	9/10	Yuri Gagarin Intl. Contest	CW
	16/17	YU DX Contest	CW/SSB
	17	**WIA National Field Day**	**SSB**
	23	**Harry Angel Sprint**	**CW/SSB**
	23/24	Helvetia Contest	CW/SSB
	23/24	SP DX RTTY Contest	RTTY
May	14/15	CQ-M Intl. DX Contest	CW/SSB
	7	**VK/Trans-Tasman 80 Metres Phone Contest**	**SSB**
	28/29	CQ WW WPX Contest	CW
June	5	QRP Sprint	CW
	4/5	IARU Region 1 Field Day	CW
	11	Asia / Pacific Sprint	SSB
	18/19	All Asia DX	CW
	25/26	ARRL Field Day	All

Note: Always check contest dates prior to the contest as they are often subject to change.

Welcome to this month's Contest Column.

Run Forrest, Run....

Running is one thing, but Search and Pounce (S&P) is quite another. Both are valuable operating approaches during a contest, but when is best for which methodology? Should contest organisers try to reach a level playing field by banning 'running' in some contests?

If you have a super-station with a great antenna then running for most, if not all of the time will probably be your tactic of choice for many contests as you may be able to hold a clear frequency and be audible to the DX. If you have an FT817 and a G5RV (or 10 W and a 5-ele on 2 m) then you are generally going to be a S&Per – but your DXCC tally might rise quite nicely. With a middle-of-the-road station (say 100 W barefoot and a doublet on 80 m for example) you will be able to do a bit of each but you are still very unlikely to be the overall winner. In some contests there are sections on the basis of power and/or antennas to make life easier for the little guys and in some there are no such provisions – that is just a fact of life. The bigger stations can run, so they do. The smaller stations often cannot run – so they don't.

Levelling the playing field in contesting is a term heard more often nowadays. In WRTC it is essential that the competitors utilise similar stations, location, equipment etc in order to try and rely purely upon the operator skill-set for results. So, does this mean that the bigger stations require less skill to achieve a higher score as the hardware provides most of the perceived advantage? We are talking about contesting! It is competitive! Why should the organisers interfere with one station's optimum operating strategy to (presumably) try to induce another to employ tactics which may not be wholly suited to his station? Remember, without the Runners there is no-one for the S&Pers to work. And of course, equally, without the S&Pers, there is no-one for the Runners to work.

So, is it time to have sections in contests that are for "Runners only" and "S&Pers only" so each type of station can at least compete against his or her peers? No, because it is not either-or. Even the biggest stations need to know how to S&P and equally importantly, when to S&P. On the other side, you may feel you're a 'little pistol' but there are times in some contests when you'll be able to run. There are 10 W stations that run successfully for at least part of the Commonwealth Contest, so it obviously can be done to a good advantage. Some of the QRP records for CQWW and CQWPX are very significant indeed – a rare location adds 20 dB to the signal!

Would the organisers possibly consider an "S&P only" section, a "run-only" section and a ""mixed S&P and run" section? What would happen if 75% or more of the potential entrants decided to S&P only? Or Run only? I suspect that the band would be either very quiet with everyone tuning but not allowed to call, and huge unmanageable pileups for the few CQers, or very busy with everyone CQing but nobody answering.

Run versus S&P is an operational tactic and requires considerable skill and experience to get right. Add multiple bands and mults-per-band into the mix and it's all often portrayed as a science bordering on alchemy. It's a fine art getting it right - the IOTA single-op mixed-mode entrants will tell stories of how vital it is to get band changes, mode changes and run/S&P changes right. Activity levels itself out as a result - if running is not producing enough Qs or multipliers, you go run somewhere else or S&P a while if the rules do not allow you to change bands for a while.

So, how does one start out in contesting if skill and experience is required to get things scoring at their best? S&P is a great strategy in a contest you've not taken part in before because you can listen to

IOTA Contest 2010

Callsign	IOTA Ref	Island	Category	QSOs	Mults	Final Score
VK7ZE	OC006	Tasmania	IOTA FIX SOU SSB 24H HP	647	95	403275
VK4AN	OC137	Russell	IOTA FIX SOA MIX 24H LP	348	100	312000
VK4BUI	OC001	Australia	IOTA FIX SOU MIX 24H HP	147	78	155142
VK4HAM	OC142	Fraser	IOTA DXPN MS MIX 24H LP	316	51	129132
VK3TDX	OC001	Australia	IOTA FIX SOU MIX 24H HP	241	40	54840
VK7GN	OC006	Tasmania	IOTA FIX SOU CW 12H HP	232	33	49500
VK7XX	OC006	Tasmania	IOTA FIX SOU SSB 12H HP	170	40	47760
VK4LDX	OC171	Magnetic	IOTA DXPN SOU SSB 12H LP	43	17	10557
VK2AYD	OC001	Australia	IOTA FIX SOU CW 12H LP	66	16	9504
VK4GH	OC001	Australia	IOTA FIX SOU SSB 24H HP	16	15	3420
VK2ACC	OC001	Australia	IOTA FIX SOU SSB 12H HP	19	14	3150

the CQing station before you make a contact, work out in your own time what you need to say, then dip your toe in and have a go yourself. Operating HF from suburbia, for example, operators can often be reluctant to call CQ as the noise floor means that there are likely to be many stations who would hear the CQ but who the operator making the CQ might not hear. Many of the "big guns" have excellent RX performance to match their transmit signal strength and this is very encouraging to those whose station capabilities may be more limited. Just as WJST etc has enabled lower power stations on VHF/UHF to make EME QSOs with a 9 element beam and a few watts of power, those fortunate souls with an 80 m 4-square make possible an otherwise marginally readable QSO for those who have 10 W and a random bit of wire.

The current top contesters were not born contesters - they started as 'mike-shy' and 'key-shy' in just the same way as many of today's new licensees. They got on the bands, worked a few contests and competed against themselves in order to hone their skills and stations to where they are today.

CQWW RTTY WPX Contest 2011

Steve, VK3TDX was on the bands for the RTTY WPX contest. He reports that the weekend was great fun as finally all bands were open and in great shape. The lower bands 80 and 40 were ideal with low noise and great openings worldwide. 10 metres as usual was open to JA and the north but not many stations there bothered to operate since the prefix multipliers are not unique to bands in this contest and all the other bands were bristling with activity. The WPX tests are great because of the 30 hour maximum operating time, which means that operators can get some rest and its XYL friendly! Steve amassed a score of just over 1.7 million – nice going Steve!

Eddie VK4AN decided a few days before IOTA contest to make a serious effort. As usual, Eddie planned to get lots of sleep ahead of time, tweak the antennas and test everything prior to the start. All was going as planned, so Eddie began to get worried! Where was 'Murphy'? He just *had* to be lurking around somewhere.

The contest started and all was going fine...then 'Murphy' finally showed up and crashed the PC in the middle of a pileup! A few minutes later (and a modicum of profanity no doubt) all was going well again and stayed that way the rest of the contest. Bands were open but Ed could not crack the RF wall of JAs very often into Europe or USA with 100 W on the lower bands, so he concentrated on the upper bands whenever he could. Eddie was surprised (but delighted!) to receive 1st Place World in the SOAB Mixed Mode Low Power category. Pride comes before a fall however, as in December the storms destroyed all of Eddies antennas and one tower, but he will be back next year with new ones to hand out OC-137. True Aussie spirit – unlike some others heard operating during the contest who would QSY adjacent to a station spotted on the Cluster to try and grab a few additional QSOs.

An Insurance Bloke on a Stick

After the extensive damage caused by cyclone Yasi, the awful flooding and raging bush fires, an insurance bloke on a stick will possibly be the much longed-for result of many an unsuccessful claimant trying to rebuild their lives. Definitions of what is, or is not, classified as a flood will no doubt be debated ad-infinitum for example.

Well, during a recent working-bee weekend at the station with many of the VK4KW crew lending a hand, I was in the privileged position to see such a sight – an insurance bloke on a stick. Atop a step ladder in a sloping paddock and trying to install a bit of wire on the top of a high wooden post, insurance broker Andy Munson VK4HAM could be seen wobbling around trying his best to halt gravity in its tracks by grabbing the support pole. Dave VK4NDX was no help and showed little sympathy, as he watched from afar and giggled like a school girl at the plight of a semi-airborne Munson delicately trying to maintain his balance while the distance from the top of the ladder to the support pole started to increase.

Both gentlemen had answered a plea for assistance from me to install some bits of wire in one of the paddocks. It was a hot sunny day and once we'd covered ourselves with plenty of goo to protect against the sun's harmful rays as we were all wearing shorts, we marched off carrying wire, pliers, plenty of water (no beer!) and a step ladder.

On the very top rung, stretching as high as he could to hook the wire onto the pole, Andy was reaching like a small child in a lolly shop trying to grab some goodies from the high counter. First to show signs of distress were his knees – a slight wobble commenced, followed by

ribald comments from his 'mates' about the ancient art of knee-trembling. Not a man to give-up a quest once started, Andy found that little bit more 'stretch' to finish the job and in doing so, managed to set underway a basic form of energy long sought after by scientists – perpetual motion.

To digress for a moment if I may: Everyone knows that if a cat falls it always lands on its paws. Also, if buttered toast is dropped, it is a sure-thing that it will land on the floor butter-side down. So, if a cat were to be augmented with a piece of buttered toast fixed onto its back and then delicately dropped from a height above the ground, would it reach a point just above ground level and rotate while the butter and the cat paws compete to reach ground zero, therefore creating another form of perpetual motion? The toast always lands butter-side down as this is likely to make the most mess, so the 'butter down' annoyance factor is accentuated if the applied substance (in this case butter) is difficult to clean up or if the floor has a high susceptibility towards staining. So, I wonder if more perpetual energy might be the result of swapping-out the toast with smearing chicken tikka vindaloo onto the cat and then conducting the experiment over a white shagpile carpet? A great power source for Field Day contesting – just add a dynamo to one end of the cat....

Now back to the task at hand. Andy's oscillations began without too much of an issue, but the ladder was not on solid level ground and my attempts to hold-on to the support for 100 kilos of VK ham were generally unsuccessful. As the amplitude and frequency of the oscillation grew, so did the profanity and voice pitch from Andy along with the corresponding guffaws of laughter from Dave. Oblivious to all this detail at the time, I was clutching on to the middle of the step ladder whilst sideways glancing for an escape route if gravity won the battle – I had no intention of being a soft landing for an airborne Munson! I had intended to look up to check on timing for my seemingly imminent escape, when – horrors! What a day for Andy to go commando.....

Beru Contest Team 2011

At the time of going to print, the VK Beru Team Captain for 2011 has just been confirmed as John Loftus VK4EMM. John is no stranger to the contest and is a good choice for the job. John is thinking of entering two teams for 2011 – a full time and a part time team.

Current members for the part-time team include: Vlad VK2IM, Phil VK4BAA, Alan VK4SN, Mirek VK6DXI, John VK6HZ and Alan VK8AV.

Current members for the full-time team include: Barry VK2BJ, John VK4EMM and George VK4XY.

John has found it to be a struggle to form teams this year due to people's busy life schedules. Let us hope that the propagation Gods favour the antipodes!

Congratulations!

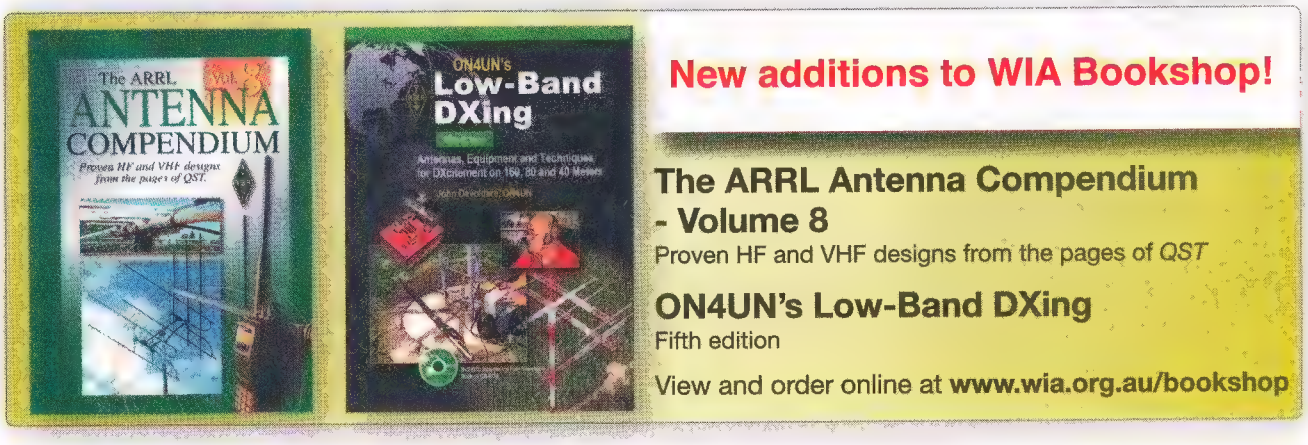
And finally, a word of congratulation goes to Andy VK4HAM for achieving his callsign upgrade in the last week or so. All the study has finally paid off. Andy sat the exam in mid-February, and with a pencil clamped in his nervous sweaty palm, he managed to keep composed enough to work his way through the ordeal. The exam paper was marked immediately, while Andy waited anxiously. Minutes seemed like hours, as his ham life flashed before his eyes while the paper was marked, checked then re-checked just to be on the safe side. However, the checking confirmed that Andy had gained a pass. The news was given to Andy, whose mobile phone bill immediately escalated as he told his friends and family the good news. A tyre iron couldn't have got the grin off his face.....

The new callsign is yet to be confirmed, but VK4HAM is to be traded-in and VK4NM has been applied for – well done Andy! There is no pressure at all on Dave VK4NDX to upgrade now – not any at all. Nope, absolutely nothing. None of the VK4KW team will mention it again. Honest.

If you have any contest related material for inclusion within the column, topics that you would like covered or even some experiences and pictures you would like to share, then please feel free to get in touch via *vk4baa@wia.org.au*

See you on the bands.

73 de VK4BAA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COQC QRP Hours Contest 2011

Date / Time:	Saturday, 2 April 2011, 1000-1159 UTC.
Frequency Band:	80 m – see Frequency / Mode Table below.
Category:	Single Operator.
Modes:	CW or PSK31 or RTTY / SSB - see Frequency / Mode Table below.
Power:	Preferably 5 Watts, but not more than 10 Watts average (CW/PSK31/RTTY) or PEP (SSB) at the transmitter output – this is to stress the QRP nature of the event.
Exchange:	A three-digit serial number starting at 001 and incrementing by one for each new contact.
Repeat Contacts:	No repeats – only one contact per mode per hour.

Sponsored by the CW Operators' QRP Club (COQC), the aim of the QRP Hours Contest is to make as many contacts as possible within a one-hour period using your choice of mode. While it is hoped that the event will be strongly supported by COQC members, it is open to all licensed amateur radio operators.

The contest is divided into two (2) one-hour periods. Modes and frequency sub-bands are allocated to each hour as shown in the table below.

Frequency / Mode Table			
Hour	**Time (UTC)**	**Mode**	**Frequency (MHz)**
First Hour	1000-1059	CW or PSK31 or RTTY	3.500-3.535 (CW)
			3.620-3.630 (PSK31 / RTTY)
Second Hour	1100-1159	SSB	3.550-3.590

Scoring

- Score one (1) point per contact regardless of mode.
- No multipliers apply.
- QRP stations can count contacts with QRO stations towards their final score.

Certificates will be awarded to the highest scorers in each mode in each VK State or Territory and ZL.

These rules can also be found at *http://home.exetel.com.au/auriga/AR/QRP/QRP_Hours.html*

Logs

- Logs must show full details for each QSO, viz. time (UTC), station worked, mode, exchange serial sent, and exchange serial received.
- A Summary Sheet showing operator's callsign, name, address and total points claimed must accompany the Log.
- The preferred method of sending the log is email, but entrants must still include their postal address as per the Summary Sheet.
- Send Logs and Summary Sheet to the Contest Manager, Mike Dower VK2IG - email: qrphours at exemail dot com dot au; or snail mail: PO Box 8013, Gundaroo, NSW, 2620.
- Emailed logs must be postmarked no later than 2359 AEST on Wednesday, 20th April, 2011; snail mailed logs must be postmarked no later than Wednesday, 20th April, 2011.
- Feel free to include information about your station and band conditions; and any comments on what you liked, what you'd like to see included or improved, etc.

GippsTech 2011

Interested in all things related to weak signal operations, especially on the VHF, UHF and microwave bands!

Then think ahead

Keep the weekend 9 and 10 July free and make your plans to get to Churchill in the Latrobe Valley, Victoria to attend the annual GippsTech technical conference.

More details can be found at the Eastern Zone Amateur Radio Club (Inc.) website:

http://www.vk3bez.org/

VHF/UHF – An Expanding World

David Smith VK3HZ
vk3hz@wia.org.au

Weak Signal

January 13 was a notable day with a huge sporadic E opening on 2 m covering the eastern side of the country. We had VK2 working into Adelaide, VK3 into VK4, VK7MO in Hobart working into VK2 and VK4, and ZL in the mix too.

Of particular note was VK9NA on Norfolk Island working into central VK3. Chas VK3PY had a dream come true when he worked them, finally succeeding with the goal to work all VK Call Areas, including VK0 Antarctica some 24 years ago.

Another contact of note, and probably the longest for the season, was Phil VK5AKK working Bob ZL3TY – a distance of 2924 km. This is the fourth year in a row that VK5 stations have worked into ZL on Sporadic E. On January 5 2010, Phil worked Nick ZL1IU – 3182 km; on January 1 2009, Geoff VK5GF worked Nick ZL1IU – 3179 km; and on January 9 2008, Brian VK5BC/p at Corny Point worked David ZL1BT – 3400 km. So, a recommendation to VK5s in the Adelaide area might be to not take a holiday away from your shack in the first two weeks of January!

VR2RSY Beacon

The VK2RSY 2 metre beacon has been restored to service after the PA failed. A more efficient 25 W amplifier has been installed that should be more reliable. The frequency was adjusted against a GPS reference to +2 Hz - the adjustment is not capable of finer resolution.

Brian ZL1AVZ reports that the VK2RSY 23 cm beacon was received at Muriwai west of Auckland RF73FD on the morning of 30/1/2011 on a 1 metre dish RST 429 in for at least 3 hours. 2 metres was wide open at the time.

Travelling with 2 metres

Fred VK2FWB is now operating portable and reports good contacts from Parkes on 13 February with Bob VK3AJN, Trevor VK3VG, Norm VK3DUT, Jeff VK5GF, Peter VK5PJ and several VK1s. He hopes to be on a hill somewhere in central and southern NSW most Sunday mornings with 50 W and 6-element beam on 2 m SSB.

Fred was very active during the 1980s as VK2YZU on AE with VK2ZAB from Sydney and in the 1990s from Parkes as VK2YZU / KZU / FWB on AE to eastern Victoria. He has now retired and is travelling in a caravan.

VK3BJM Activities

Regular contributor Barry VK3BJM sent in the following report of his recent activities:

True to form, I was at work on January 13 - the day Es opened the door between VK9NA and VK3.

Saturday made up for it, though. In the morning, prior to the Summer Field Day kicking off, I switched on for the usual AE period at about 2115 Z. The VK5VF 2 m beacon was a good strength. Calls on 144.100 resulted in working Bill, VK5ACY at 2121 Z. Bill was a comfortable 59+10 signal on 2 m. Next was Brian, VK5BC/p at Corny Point, on 2 m and for the first time on 70 cm and 23 cm between 2123 – 2130 Z. Signals seemed a little better on 23 cm than 70 cm, over the 711 km path. This contact gave me PF85 on 70 and 23 cm; perhaps it also gave Brian QF22 on those bands, too?

Fifty minutes later I worked Jeff, VK5GF, again on 2, 70 and 23. This was the first time I had worked Jeff on 23 cm, too. Signals were impressive - a consistent 58 exchanged on all three bands. This was also the first contact I had made on 23 cm into PF94. Not long after that I worked Gary, VK5ZK at 59 each way on 2 m; that was followed by our first contact on 23 cm.

At 2258 Z Mark VK2EMA was worked at 59 on 2 m, but attempts made on 70 and 23 were unsuccessful. At 2308 Z Leigh VK2KRR was worked on 1296.150, with signals steady at 59+.

I had a break before rejoining everyone for the Field Day. Propagation was reasonably good during the afternoon, and contest traffic was moving briskly. Working Jim VK5OM/p3 on 23 cm gave me the locator QF03 on that band, which was a nice bonus; thanks Jim! Saturday wound up with three new locators on 23 cm, and one on 70 cm - took the sting out of missing the lads on Norfolk Island. A bit.

The following weekend was preceded with the news that Rex, VK7MO, would be operating portable from Mount Poimena on Sunday the 23rd, activating QE48at. I had just put the finishing touches on my new 23 cm antenna - a 4x 50-element array of T-Boom Yagi - so I decided I would drop the tower Saturday afternoon and miss the Sunday morning AE session whilst I installed the array and tidied up a few other issues with cables in the H-frame, prior to Rex being QRV.

Surprisingly, Murphy was occupied elsewhere in the country at the time, and the tower was back up just after 0001 Z, which was when Rex was hoping to be on air. A few quick tests proved everything was working, and by 0033 Z I had worked Brian VK5BC/p at Corny Point on 23 cm for the second time in a week! Later tests using the VK3RXX beacon suggested an improvement on that signal of between one and a half to two S-points with the new array.

The beam heading to Rex was not brilliant for me - Mount Macedon, only 22 km away, presented itself as a major hurdle. Rex was certainly there on 2 m, as he worked the lads from Geelong. I listened as he worked VK3PY, then VK3AKK, then VK3ALB, then VK3QM - as Rex worked David, QSB took Rex away... Despite a few attempts, nothing got

through. At this point I wanted to walk away completely! However, I decided a trip to the kitchen and back was far enough to settle the mind. I am glad I decided on that - ten or fifteen minutes later, Rex reappeared a little stronger than before, and reports were exchanged. Unfortunately conditions, and my local topography, meant the higher bands were not feasible - but a contact on 2 m over Bass Strait from this far inland is always very pleasing. The path is 541.5 km.

Things were a little easier when Rex headed to Mount Owen, QE27tv, on Thursday 3 February. Again, conditions were not astounding but the VK7RAE 2 m beacon held in all afternoon at 419, and Rex was worked without much difficulty on 144.225 MHz at 0319 Z; reports of 51 and 54 being exchanged. Nothing was heard on 23 cm. Path this time was 551 km. I will not be alone in thanking Rex for the effort put in to activate both of these locators.

Evaluating the new 23 cm array continues, but initial results are suggesting an increase in AE "window" time to Ian VK1BG. An Airbus A330 at 38000' provided consistent 51 to 52 signal strength between 2131 and 2137 this morning (Friday 4 February). Photos of the array during construction and after installation are on my Flickr page (http://www.flickr.com/photos/72319077@N00/).

I have also started adding a couple of new pages to my website (http://www.qsl.net/vk3bjm/) covering ADS-B, T-boom Yagi and a few other things.

Please send any Weak Signal reports to David VK3HZ at *vk3hz@wia.org.au*

Digital DX Modes

Rex Moncur VK7MO

Another New 2 metre Digital Record

Hot on the heels of last month's 2497 km record-breaking contact between Derek VK6DZ and Jim VK3II, Derek has extended the record to **2661 km.** On the evening of February 12, he worked Leigh VK2KRR using JT65b with signal reports peaking to –2. Derek's setup consists of a Kenwood TR-9000 with 70 W brick amp and 6-element Yagi at 10 metres with a site elevation of 2 metres above sea level. Leigh was running an IC-910H into 4 x 17-element Yagis and 120 W.

Correction

In the February edition of AR, the callsign of Robert VK4LHD was incorrectly referred to as VK4LDH. Robert tells me he has a severe hearing impairment and thus the digital modes provide a special benefit in his situation. He is active on FSK441 and is keen to explore JT65 on 2 metres although he is still coming to grips with the procedures. If you are within troposcatter range of the Sunshine Coast and operational on JT65 look out for Robert on the VK Logger and run some tests with him.

Activation of QE27 from Mt Owen

Rex VK7MO and Joe VK7JG planned to activate QE27 on the West Coast of Tasmania on 144, 432, 1296 and 10368 MHz on 3 and 4 February. As it turned out Joe had car problems and did not make it. With the reduced manpower Rex did not set up the 432 MHz station. A total of 11 QSOs were made on 10 GHz with four separate groups at Mt Gambier, near Geelong, the Dandenong ranges and South Gippsland. Eight of these were on digital and three on SSB. On 144 MHz 17 stations were worked - all on SSB. Despite many attempts during the late afternoon no QSOs were completed on 1296 MHz. It is interesting to contemplate why there was propagation on 144 MHz and 10 GHz yet none on 1296 MHz. The answer seems to be as follows:

Initially Rex set up on 10 GHz and worked Colin VK5DK over some 630 km at Mt Gambier on the digital mode JT65c. The Hepburn charts showed there was the possibility of some tropo enhancement. The signal on the waterfall showed no significant spreading consistent with a duct giving the enhancement. Shortly after Rex worked David VK3HZ in the Dandenong ranges and again there was no spreading of the signal.

By mid afternoon the South Gippsland group of Ralf VK3WRE, Peter VK3PF and Jim VK3ZYC were operational but there was little evidence of signals - just occasional traces on the waterfall. But some time later the signal strength increased rapidly with wide spreading of the signal. Sufficient to work SSB even though very rapid QSB combined with the spreading made it difficult to copy. This is typical of rain-scatter on 10 GHz.

By late afternoon a further test with the Mt Dandenong group which now included Peter VK3TPR showed signals had faded to just a trace on 10 GHz with no evidence of spreading. At this time Norm VK7AC was reporting strong signals on VHF via a duct from Northern VK7 to VK3 but no sign of Rex's signal on 1296 MHz. The explanation seems to be that the duct was trapping the signal and preventing it getting over the Mountains in central Tasmania. This also seems to explain the initial lack of signals to the South Gippsland group.

A repeat test with VK5DK showed signals had weakened but there was now spreading as evidence of rain scatter.

By the early evening the Geelong group led by Chas VK3PY were set up and worked with good signals on 144 but there was no evidence of signals on 1296 or 10 GHz. Rex told them he had to pack up to get off the mountain before dark but on their pleading agreed to pack up the 144 and 1296 MHz stations and leave the 10 GHz system running. Sometime later the Geelong group telephoned saying they could hear the 10 GHz signal and an attempt was made at SSB. The SSB signals were distorted with rapid QSB typical of rain scatter but were too weak to complete a QSO. By going to the digital mode JT65c, QSOs were completed with VK3PY and VK3NX. The digital signals showed around 40 Hz of spreading which is an indication of rain-scatter.

Rex believes the most likely answer is that while the duct

that developed over Bass Strait had sufficient leakage to allow propagation at 144 MHz it trapped the signals at 1296 MHz and 10 GHz. However rain scatter which is far more effective at 10 GHz allowed intermittent propagation on this band. Rex has in separate tests from home with Chas VK3PY found that while it is weaker, rain-scatter does also work at 1296 MHz. Thus these initial results suggest that rain-scatter may well be worth exploring as a means of working microwave bands from southern Tasmania over the mountains in central Tasmania to VK3.

Please send any Digital DX Modes reports to Rex VK7MO at *rmoncur@bigpond.net.au*

The Magic Band – 6 m DX

Brian Cleland VK5BC

February proved to be an interesting month with the sun finally becoming active and the solar flux going above 100. It resulted in some good sporadic E openings as well as some TEP openings to Japan.

After a few quiet weeks some good E openings occurred on 6 and 7 February. The day started early on the 6th with Brian VK4EK working David VK3AUU and Frank VK7DX, then David VK5AYD working Mark VK2AMS followed by Andy VK6OX. While this was happening Bob ZL1RS was working Warwick E51WL in the North Cook Islands. A little later in the morning stations using WSPR started to get strong decodes between VK5, VK2, and VK4, and Brian VK5BC worked Mark VK2EMA, John VK2FAD and Phil VK4FIL. Following these contacts the band opened to VK6 from VK5 and Brian worked VK6OX and Wayne VK6JR completed a contact with Mark VK2EMA. Igor VK6ZFG in Perth also worked Michael VK6BHY in Karratha.

7 February saw a good early morning opening from VK4 to VK3. Adam VK4CP, Denis VK4ACE, Phil VK4FIL and Wayne VK4WTN worked several VK3s including VK3s AKC, AIG, and FZ. Adam also worked Ted VK2ARA. The band then opened to VK5 with Brian VK5BC working VK2 and 4 stations. Meanwhile further north John VK4FNQ in Charters Towers was working VK4 Brisbane stations as well as VK2XN and VK7DX.

9 February also turned out to be a very interesting day. At about 0530 UTC Denis VK4ACE worked several JAs including JA2LRE, JA1RJU, and JT1CUL then shortly after that Brian VK5BC worked JA2LRE, JA6EXN, JG2LEB and JA3APL, the first JA opening to VK5 for 12 months. Following these contacts the band opened from VK5 to VK4 with Garry VK5ZK working Wayne VK4WTN.

David VK5AYD in Coober Pedy worked John VK6JJ and Rick VK6XLR on 12 February.

14 February started with Wayne VK4WTN working Norm VK3DUT early morning. Then later in the morning the band opened from northern VK7 to VK5 with Peter VK7PD in Trevallyn working Gordon VK5KAA and Brian VK5BC. Brian then worked Norm VK7AC, Joe VK7JG and Frank VK7DX. Later in the day the band opened from VK5 to VK6 and Brian VK5BC worked Kevin VK6AB. Later that evening Mark VK8MS in Darwin worked Willem DU7/PA0HIP.

On 21 February Joel KG6DX Guam worked several VK4 stations including Wade VK4WM, Wayne VK4WTN and Steve VK4KUS.

From around 22 February openings occurred on many days from VK4, northern VK6 and VK8 to Japan, particularly good days on 23, 24 and 25. Brian VK4EK in Sapphire reports hearing JAs on the 22nd and working 11 x JAs in the 1, 2, 3, 4 call areas between 3.00 pm and 4.00 pm local time on the 24th and on the 25th the band opened again around 3.00 pm and this time working 17 x JA stations in the 1, 2, 3, 6, 7, 8 call areas and at one point had a dog pile going 50.140 MHz with many reports of 5/9+.

Wade VK4WM reports good openings on the 22nd working 2 x JAs on SSB and 8 on CW and on the 24th working a further 8 x JAs on SSB and 12 on CW most with 5/9+ signals.

Phil VK4FIL in Brisbane was very pleased to report his first JA contact with JH1WHS on 24th February, well done Phil.

28 February: Andrew VK4KAY in Mackay had some interesting mobile contacts working both Remi FK8CP and JA3EGE whilst mobile and Glen VK4BG in Torquay north of Hervey Bay also worked FK8CP and JA3EGE.

It will be interesting to see what the Equinox produces.

Please send any 6 m information to Brian VK5BC at *briancleland@bigpond.com*

National Field Day

17th April, 2011

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http://www.wia.org.au/members/bookshop/index.php?cat=16

WIRELESS INSTITUTE OF AUSTRALIA

Summer VHF-UHF Field Day 2011: Results

Contest manager: John Martin VK3KM

The Summer Field Day went well. In all 99 logs were received, which was very good going considering that the contest coincided with the Queensland floods. There was also a log from VK6 this time, so here's hoping that there will be more in the future.

The winners of the sections were Ralph Edgar VK3WRE, Matt Hetherington VK2DAG, the Eastern and Mountain District Radio Club VK3ER, one of two Geelong Amateur Radio Club stations VK3ALB, Ross Keogh VK3MY and Peter Freeman VK3PF. Congratulations to all.

Call	Name	Location	50 MHz	144 MHz	432 MHz	1296 MHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	TOTAL
Section A:	**Single Operator, 24 Hours**												
VK3WRE	Ralph Edgar	QF31	-	474	680	1000	750	620	730	760	-	-	5014
VK3ES	Andy Sayers	QF22	40	858	1195	976	390	-	-	-	-	-	3459
VK5ZD	Iain Crawford	PF85	55	219	305	632	470	520	490	330	-	-	3021
VK4OE	Doug Friend	QG61, QG62	44	258	335	544	530	210	-	440	420	210	2991
VK3LY	Bill Day	QF04	119	651	875	880	-	-	-	-	-	-	2525
VK5NI	John Ross	PF85, PF95	48	315	375	296	440	320	220	210	-	-	2224
VK5AKH	Andrew Hall	PF95, PF96	-	372	355	664	-	-	-	-	-	-	1391
VK3FEMT	Stewart Wilson	QF22	-	663	705	-	-	-	-	-	-	-	1368
VK1AI	Greg Parkhurst	QF44	64	510	460	-	-	-	-	-	-	-	1034
VK4HBO	James Kop	QG61, QG62	-	234	365	344	-	-	-	-	-	-	943
VK3VCL	Wayne Bruce	QF22	23	201	285	360	-	-	-	-	-	-	869
VK3VL	David Harms	QF33	-	375	435	-	-	-	-	-	-	-	810
VK2FWB	Fred Baker	QF46	32	315	220	-	-	-	-	-	-	-	567
VK3HV	George Francis	QF31	-	180	120	-	-	-	-	-	-	-	300
VK2NR	David Porter	QF69	-	129	-	-	-	-	-	-	-	-	129
Section B:	**Single Operator, 8 Hours**												
VK2DAG	Matt Hetherington	QF57	48	216	355	368	430	430	430	320	-	-	2597
VK5ZD	Iain Crawford	PF85	21	192	260	552	450	380	350	330	-	-	2535
VK5KK	David Minchin	PF95	32	99	170	464	340	470	330	340	-	-	2245
VK5OQ	Keith Gooley	PF95	23	315	375	560	-	379	340	220	-	-	2203
VK5TX	Ben Hennessy	PF95	-	339	355	608	-	340	330	220	-	-	2192
VK2TDN	Dave Nelson	QF56	23	222	325	376	210	-	370	370	220	-	2116
VK2GG	Dan Joyce	QF56	36	126	205	344	220	-	350	370	220	230	2101
VK3YFL	Bryon Dunkley-Smith	QF22	66	390	565	496	-	-	-	380	-	-	1987
VK5DK	Colin Hutchesson	QF68	35	336	295	184	230	210	210	210	210	-	1920
VK3TPR	Peter Roberts	QF21	-	348	485	400	330	-	-	330	-	-	1896
VK5NI	John Ross	PF85, PF95	34	198	250	272	330	320	220	210	-	-	1834
VK5LA	Andy Williss	PF94, PF95	-	333	500	648	330	-	-	-	-	-	1811
VK2CQ	Dave Maloney	QF55, QF56	32	147	225	368	-	-	360	350	220	-	1702
VK2TRF	Jack Swart	QF55, QF56	32	135	170	368	-	-	360	350	220	-	1635
VK5HZ	Darryl Ross	PF95	-	240	330	392	-	330	330	-	-	-	1622
VK2CU	Justin Lavery	QF56	37	222	285	328	210	-	230	240	-	-	1552
VK5AKH	Andrew Hall	PF95, PF96	-	309	270	656	-	-	-	-	-	-	1235
VK2HRX	Compton Allen	QF46	-	420	390	384	-	-	-	-	-	-	1194
VK2APE	Les Poole	QF56	21	72	120	192	-	-	230	220	-	230	1085
VK4ADC	Doug Hunter	QG62	59	147	230	-	-	-	-	-	-	-	436
VK5FAAB	Peter Murphy	PF95	-	147	240	-	-	-	-	-	-	-	387
VK5AR	Alan Raftery	PF95	-	111	240	-	-	-	-	-	-	-	351
VK5KLV	Les Virgo	PF87	33	138	175	-	-	-	-	-	-	-	346
VK5KPR	Peter Banks	PF87	44	141	110	-	-	-	-	-	-	-	295
VK3FRAE	Rae Billing	QF31	-	147	115	-	-	-	-	-	-	-	262
VK5UE	Colwyn Low	PF95	-	87	-	-	-	-	-	-	-	-	87
Section C:	**Multi Operator, 24 Hours**												
VK3ER	EMDRC	QF22	311	1260	1525	1416	990	500	500	630	-	-	7132
VK3UHF	GARC (LUMEG)	QF21	274	939	1220	1448	1100	500	650	700	210	-	7041
VK3ALB	GARC (Leura)	QF11	115	732	975	1128	760	-	480	700	-	-	4890
VK4WAT	TREC	QH22	306	378	480	352	-	-	-	380	-	-	1896
VK3CMZ	Midland ARC	QF23	63	417	500	-	-	-	-	-	-	-	980
VK3YVG	YVARG	QF22	74	288	340	-	-	-	-	-	-	-	702
VK1DSH		QF45	-	123	85	-	-	-	-	-	-	-	208
VK6RM		PF16	139	66	-	-	-	-	-	-	-	-	205

Section D:	**Multi Operator, 8 Hours**												
VK3ALB	GARC (Leura)	QF11	73	546	815	864	680	-	440	660	-	-	4078
VK5OM		QF03	22	330	455	600	320	-	-	-	-	-	1727
VK2EH	CCARC	QF56	144	321	430	256	-	-	-	-	-	-	1151
VK2AWX	Hunter Radio Group	QF56, QF57	69	342	285	-	-	-	-	-	-	-	696
VK1PAR		QF44	27	273	425	-	-	-	-	-	-	-	725
VK3BJA	GGREC	QF21	19	141	155	24	-	-	-	-	-	-	339
Section E:	**Home Station, 24 Hours**												
VK3MY	Ross Keogh	QF22	102	570	880	1112	580	-	-	-	-	-	3244
VK3NX	Charlie Kahwagi	QF21	32	300	450	384	320	320	320	320	210	-	2656
VK5NE	Paul Roehrs	PF95	61	477	660	592	-	230	230	-	-	-	2250
VK3VFO	Nick Kraehe	QF31	62	588	670	384	-	-	-	-	-	-	1704
VK2EI	Neil Sandford	QF68	48	243	120	168	250	210	210	210	210	-	1669
VK3BJM	Barry Miller	QF22	64	459	420	600	-	-	-	-	-	-	1543
VK3NFI	Dean Webster	QF31	60	483	550	264	-	-	-	-	-	-	1357
VK4JMC	John McPherson	QG62	36	366	225	376	330	-	-	-	-	-	1333
VK5LSB	Simon Brandenburg	PF94	46	393	385	472	-	-	-	-	-	-	1296
VK2MER	Kirk Mercer	QF55	67	393	510	296	-	-	-	-	-	-	1266
VK3HY	Gavin Brain	QF22	94	357	375	368	-	-	-	-	-	-	1194
VK5AIM	Steve Mahony	PF95	38	297	350	432	-	-	-	-	-	-	1117
VK3DMW	Ken Brown	QF31	-	291	415	392	-	-	-	-	-	-	1098
VK3XAS	Andrew Scott	QF22	44	456	505	-	-	-	-	-	-	-	1005
VK5ALX	Alex Glinski	PF86	22	264	385	280	-	-	-	-	-	-	951
VK2ZTV	Peter Sturt	QF57	106	360	245	176	-	-	-	-	-	-	887
VK4ALH	Leicester Hibbert	QG63	67	222	205	384	-	-	-	-	-	-	878
VK2TG	Robert Demkiw	QF55	62	303	295	176	-	-	-	-	-	-	836
VK3KIS	Andrew Kayton	QF22	-	177	270	344	-	-	-	-	-	-	791
VK4TJ	John Kirk	QG52	22	225	195	264	-	-	-	-	-	-	706
VK4VDX	Roland Lang	QG62	-	189	230	264	-	-	-	-	-	-	683
VK5MF	Matthias Fresacher	PF95	-	306	310	-	-	-	-	-	-	-	616
VK4RY	Richard Philp	QG63	64	123	125	288	-	-	-	-	-	-	600
VK3TOM	Tom Steadman	QF31	32	327	240	-	-	-	-	-	-	-	599
VK5FPAW	Paul Schulz	PF95	-	240	310	-	-	-	-	-	-	-	550
VK2TTP	Peter Pratt	QF56	42	267	210	-	-	-	-	-	-	-	519
VK1WJ	Waldis Jirgens	QF44	38	165	255	-	-	-	-	-	-	-	458
VK1MAT	Matt Bowman	QF44	24	225	125	-	-	-	-	-	-	-	374
VK2JDS	Dave Scott	QF46	-	168	170	-	-	-	-	-	-	-	338
VK3IFM	Ian Morris	QF22	-	132	175	-	-	-	-	-	-	-	307
VK1FOTO	Ian Stevenson	QF44	-	135	155	-	-	-	-	-	-	-	290
VK3HAG	Ashley Geelan	QF22	-	123	165	-	-	-	-	-	-	-	288
VK3XH	Joe Walsh	QF22	36	135	110	-	-	-	-	-	-	-	281
VK5FAAB	Peter Murphy	PF95	-	105	110	-	-	-	-	-	-	-	215
VK1XYZ	Michael Wagner	QF44	-	75	115	-	-	-	-	-	-	-	190
VK3XOR	Craig White	QF22	-	66	110	-	-	-	-	-	-	-	176
VK5FXYL	Jade Ross	PF95	-	135	-	-	-	-	-	-	-	-	135
VK5KLV	Les Virgo	PF87	76	-	-	-	-	-	-	-	-	-	76
Section F:	**Rover Station, 24 Hours**												
VK3PF	Peter Freeman	QF21, 22, 31, 32	125	441	635	848	470	790	790	930	-	-	5029
VK5ZT	Tim Dixon	PF94, 95, 96	56	294	450	640	550	600	570	440	-	-	3600
VK2XDE	Steven Harrison	QF56, 57, 67	55	207	275	432	430	430	430	320	-	-	2579
VK5AGZ	Derek Reuther	PF94, PF95	47	219	390	-	-	330	-	-	-	-	986
VK3XDJ	David Harms	QF22, QF33	-	165	-	272	-	-	-	-	-	-	437
VK5MWH	Mark Hutchinson	QF21, QF22	-	99	225	-	-	-	-	-	-	-	324

Notes

VK1DSH Dale Hughes VK1DSH, Dimitris Tsifakis VK1SV, Peter Pokorny VK2AOO
VK1PAR Al Long VK1PAR, Matt Bowman VK1MAT
VK2EH Central Coast Amateur Radio Club: VK2JDH, VK2KCM, VK2FVRJ, VK2BAC, VK2ARE
VK2AWX Hunter Radio Group: VK2SH, VK2FWJL, VK2FERM, VK2CLH, VK2FA
VK3ER Eastern & Mountain District Radio Club: Mike Subocz VK3AVV, Peter Forbes VK3QI, Max Chadwick VK3WT, Jack Bramham VK3WWW
VK3ALB Geelong Amateur Radio Club (Leura): - Geelong Amateur Radio ClubFirst
VK3BJA Gippsland Gate Radio & Electronics Club: Phil VK3YB, Chris VK3QB, Albert VK3BQO, Megan VK3HOP
VK3CMZ Midland Amateur Radio Club: Kevin Crockett VK3CKC, Michael Tobin VK3AHA, Luke Steele VK3HJ
VK3UHF Geelong Amateur Radio Club (LUMEG): Carlo Leone VK3BCL, Ken Jewell VK3NW, Chas Gnaccarini VK3PY, David Learmonth VK3QM
VK3YVG Yarra Valley Amateur Radio Group: Kevin Bedford, Trevor Bedford, Ken Taylor
VK4WAT Tablelands Radio & Electronics Club: Dale McCarthy VK4DMC, Stu Dunk VK4SDD, Jeff Cochrane VK4BOF, John Roberts VK4TL
VK5OM Jim Bywaters VK5OM, Brian Farmers VK3AQX
VK6RM Ben Broeder VK6RM, Desmond Martin VK6HDM, Stuart Scott VK6LSD

Microwave Challenge

"Microwave Challenge" certificates have been awarded to all entrants who operated on 1296 MHz or higher bands, and supplied distance calculations for the greatest distances they worked on these bands.

The Microwave Challenge scoring is based on the aggregate total scores of stations operating on 1296 MHz and higher bands (i.e. the scores as in the main scoring table, but omitting the scores for bands below 1296 MHz).

Scores for 1296 MHz and higher bands

Call	Points
Section A	
VK3WRE	3860
VK5ZD	2442
VK4OE	2354
VK5NI	1486
VK3ES	1366
VK3LY	880
VK5AKH	664
VK3VCL	360
VK4HBO	344
Section B	
VK5ZD	2062
VK2DAG	1978
VK5KK	1944
VK2GG	1734
VK2TDN	1546
VK5OQ	1499
VK5TX	1498
VK3TPR	1480
VK5NI	1352
VK2CQ	1298
VK2TRF	1298
VK5DK	1254
VK5HZ	1052
VK2CU	1008
VK5LA	978
VK3YFL	876
VK2APE	872
VK5AKH	656
VK2HRX	384
Section C	
VK3UHF	4608
VK3ER	4036
VK3ALB	3068
VK4WAT	732
Section D	
VK3ALB	2644
VK5OM	920
VK2EH	256
Section E	
VK3NX	1874
VK3MY	1692
VK2EI	1258
VK5NE	1052
VK4JMC	706
VK3BJM	600
VK5LSB	472
VK5AIM	432
VK3DMW	392
VK3VFO	384
VK4ALH	384
VK3HY	368
VK3KIS	344
VK2MER	296
VK4RY	288
VK5ALX	280
VK3NFI	264
VK4TJ	264
VK4VDX	264
VK2ZTV	176
VK2TG	176
Section F	
VK3PF	3828
VK5ZT	2800
VK2XDE	2042
VK5AGZ	330
VK3XDJ	272

Microwave DX Challenge: Greatest distances worked on each microwave band

1296 MHz	
VK3PF	933.7
VK3WRE	908.1
VK3UHF	736
VK3ES	733.1
VK3MY	646
VK3ALB	547
VK5OM	379
VK3ER	353
VK5ALX	242.5
VK5KK	242
VK5NE	222
VK3YFL	206
VK5ZD	172
VK3TPR	167
VK4RY	165.5
VK4OE	165.5
VK4ALH	164
VK5AKH	156
VK5LSB	137
VK2DAG	126
VK5ZT	120
VK2CQ	109
VK3HY	106
VK5TX	103
VK2CU	93
VK5HZ	80
VK4TJ	48
VK4JMC	48
VK2EI	42
VK2TDN	36
VK2TG	25
VK2GG	24.9
VK3NFI	24

2.4 GHz	
VK3UHF	713
VK5OM	315
VK3WRE	299.4
VK3ALB	299.4
VK3ER	274
VK5OM	274
VK3PF	230
VK3MY	194
VK4OE	170.1
VK5KK	120
VK5ZT	120
VK3TPR	118
VK3ES	94.8
VK5ZD	92
VK2DAG	68
VK2EI	61
VK2GG	22
VK2TDN	20
VK2CU	16
3.4GHz	
VK3PF	230
VK3WRE	229
VK3ER	229
VK3UHF	203
VK4OE	170.1
VK5KK	120
VK5ZT	120
VK5ZD	92
VK5AGZ	86.8
VK5NE	85
VK5TX	83
VK5HZ	80
VK2DAG	68
VK2EI	42
5.7 GHz	
VK3ALB	299.4
VK3WRE	299.4
VK3PF	230
VK3ER	229
VK3UHF	203
VK5KK	120
VK5ZT	120
VK5ZD	92
VK5NE	85
VK5TX	83
VK5HZ	80
VK2DAG	68
VK2EI	42
VK2GG	24.9
VK2CQ	24.5
VK2TDN	21.5
VK2CU	20

10 GHz	
VK3WRE	299.4
VK3ALB	299.4
VK3PF	230
VK3ER	229
VK3UHF	203
VK4OE	170.1
VK5KK	120
VK5ZT	120
VK3TPR	118
VK3YFL	118
VK5ZD	92
VK2DAG	68
VK2EI	42
VK2GG	24.9
VK2CQ	24.5
VK2TDN	21.5
VK2CU	16
VK5TX	0.5
24 GHz	
VK4OE	170.1
VK2EI	42
VK2GG	24.9
VK2CQ	24.5
VK3UHF	22.9
VK2TDN	21.5
47 GHz	
VK2GG	0.2
VK4OE	0.015

"Hey, Old Timer..."

If you have been licensed for more than 25 years you are invited to join the

Radio Amateurs Old Timers Club Australia

or if you have been licensed for less than 25 but more than ten years, you are invited to become an Associate Member of the RAOTC.

In either case a $5.00 joining feeplus $8.00 for one year or $15.00 for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to **RAOTC**
PO Box 107
Mentone VIC 3194

Ron Cook 03 9579 5600

or Bill VK3BR on 03 9584 9512, email *raotc@raotc.org.au* for an application form

ALARAnews

Margaret Blight VK3FMAB – Publicity Officer

The weather has been very kind to our garden over this summer with just enough rainfall to enable our new native garden to establish itself. The garden is replacing the former front lawn which has always been a distressing sight over summer, so OM determined 'lawn had to go'. In its place he dreamt of a native garden with meandering paths based on permaculture principles. I doubt he realised the amount of work involved in creating this organic gem but, to his credit, the final effect is marvellous.

We have recently returned from a break of a few days, driving into Gippsland and travelling home via the Alpine Highway. At present the High Country is beautiful and we thoroughly enjoyed our travels even though they were brief.

There is an opportunity in this issue to read of other people's travel experiences and I hope you enjoy them.

Trip Western Australia 2010

After having worked what seems to be a lifetime, Peter VK3ID and his YL Micheline VK3FMGE finally made their dream come true, to visit part of this vast country of ours. Both retired, we had plenty of time to see as much as we could of Western Australia.

On 6 July 2010 at noon, we set off in our Navara Ute, the tray transformed into a kitchen and storage, and on the roof rack, a pod with our camping gear and an 80 watt solar panel. Our aim was to get from Melbourne to Katherine as soon as possible from where we would start our trip around Western Australia.

On the road to Port Augusta, Cooper Pedy, Alice Springs and Katherine we had many contacts, working 15, 20 and 40 metres. We joined the Kandos Net several times on 40 metres. Our equipment comprised a Yaesu FT-100D, and a FAMPARC tapped vertical whip mounted on the bull bar.

Micheline VK3FMGE at one of the campsites.

While mobile on the Stuart Highway, we had contact with Roy operating the Club Station VK3FRC in Frankston. On 20 meters we talked to Tony VK6CV from Perth and Allan VK5WAM. One memorable contact on 20 metres while mobile was with Dennis W7SNH in Seattle USA. He battled for quite a while to understand our weak mobile signal, but we eventually exchanged 4x1 signal reports, which was fun.

Each day on the trip we contacted The Travellers Net: Bob VK6KW, while in the Kimberleys, and then later Ross VK5KMH and Len VK3NJE, who kindly acted as relay for the Travellers Net.

From Katherine we drove to Kununurra, where our trip really started. Along the Gibb River Road we had many contacts including Winston VK7EM and Ray VK4ZH.

On 2 August at Mt Elizabeth, it was quite chilly – which we did not expect in the tropics. In the evening we had a few contacts and Michi VK3FMGE, tried to join the ALARA Net on 80 metres, just managed to talk to Meg VK5YG and later to John VK3DQ who gave us a very weak signal report.

The Gibb River Road was corrugated and bumpy but driving at the right speed was not as bad as its reputation. We enjoyed the farm stays at Home Valley station, Ellenbrae and Charnley River.

While on the road we had several amateurs relay our information on the Travellers Net, and thanks go to John VK5KJJ, Helmut VK3DHI, Bevan VK6BL, amongst others.

We walked the gorgeous gorge in Windjana and also through the amazing Tunnel Creek.

We enjoyed Derby very much but found Broome overrated unless one likes shopping and night parties. Cable Beach is lovely, even more so when you forget the time of the high tide, you get bogged in the sand and stranded there for a few hours. No 4x4 can get in or out, so it is party time.

The trip to Cape Leveque was an adventure, 100 km of horrendous road (Bob VK6KW calls it "the filter") to finally arrive at paradise, Middle Lagoon. On the second evening, with a screwdriver in one hand and a small hammer in the other, we took advantage of the big low tide to collect our supper, delicious oysters.

It does not get any fresher!

After spending a couple of days visiting the Dampier Peninsula, we overnighted at 80 Mile Beach, where we admired the sand art the children had made on the beach as well as a beautiful sunset. Our next stop was Pardoo Station. We arrived quite early and decided to drive to the Pardoo Creek where we caught our dinner; two prawns got us two fish.

The BHP town of Port Hedland was very interesting. Nice to see where our superannuation monies go.

We enjoyed the several enjoyable walks Karijini National Park had to offer. It is where VK4KC relayed our position to Bob VK6KW. We participated in the Rio Tinto Tour at Tom Price. It was very impressive to see the huge trucks driven by young ladies. We could just make them out waving at us. The whole Hammersley Range seems to be solid iron-ore.

By Millstream-Chichester National Park we started to be gorged out.

Karratha is a booming mining town. Accommodation is scare and dear, the caravan parks full and expensive. We put up our tent in the backyard of the mine workers caravan park and were waken up early in the morning by the workers driving to work. While in Karratha we visited heritage towns like Cossak, Roebourne, and we bought a painting from the local Aboriginal Art Group. Point Samson is a little resort town for the North West population and we sampled their delicious prawns.

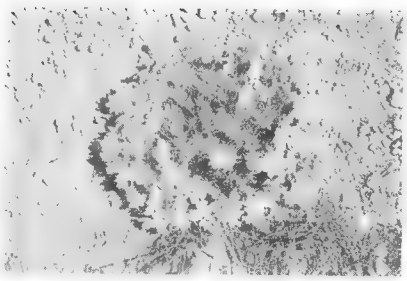
Exmouth is on a rugged, desolate Peninsula and was one of the highlights of our trip. We took a day cruise and snorkelled. We could admire the beautiful corals and the colourful fishes. We saw quite a few Humpback Whales. They swam near the side of our boat, a scary but awesome sight. We bought some lobster tails in the Co-op before going back to Yardie Homestead, known as "the Home of the serious fishermen" where we had pitched our tent.

The antenna farms at both the North West Cape (VLF) and the Harold Holt (HF) communications facilities can only be viewed from the road but would make any amateur's mouth drool!

The base of one of the towers at North West Cape.

Further down the coast is Coral Bay, with beautiful turquoise waters and beaches covered with shells. We swam with a turtle and huge Red Snapper were swimming around our feet, waiting to be fed we later found out.

We stayed in Carnarvon (the poor town has now recently been flooded three times), the fruit and vegetable bowl of WA and while there we experienced rain, real rain. During our stay we had a flat rear tyre and after getting replacements from Perth, had them fitted. (Also replaced its mate, and had them rotated front to rear).



A wreath flower found along the rabbit proof fence.

At Hamelin Pool it was fascinating to see ancient stromatolites which millions of years ago were responsible for producing the oxygen we have the privilege to breathe today.

We camped at Denham, then fed the dolphins at Monkey Mia and later, decided to drive up to Big Lagoon in the Francois Peron National Park. The track in is single lane with dry sand, and despite a couple of deep soft parts, we arrived without any problems.

After lunch it was a different story when we decided to leave. After about the first 10 metres which was slightly uphill, the car came to a stop with wheels spinning. A quick check showed the underbelly of the car was on the soft sand. Many towels, sticks, branches, etc later, we were still firmly stuck.

Fortunately there was another 4WD at Big Lagoon, and with a snatch strap we were soon towed back to where we had started. Next question was, how do we get out of here? Then some smart person said - "why don't you engage 4WD". Of course we were in low range 4WD already, so OM snapped that he was. Then the man said ..... BUT YOUR FRONT HUBS ARE NOT ENGAGED.

Of course the rest is history. Engaged the hubs and bingo, off we went. Obviously when the new tyres were fitted in Carnarvon, and the tires rotated, they had disengaged the front hubs (for whatever reason), we never suspected that they were not engaged, but there you go! The moral is: don't take anything for granted.

At Kalbarri, there were more walks to tempt us along the Coastal Cliffs. The views were breathtaking.

After Geraldton we started to follow the wild flowers trail which we found to be amazing and colourful. We were told it was not a good year for wild flowers because of lack of rain, but we still wonder what would a good year be. We were overwhelmed by the beautiful display of yellow, pink, white, purple and blue everlastings, wreath flowers, donkey orchids, etc.

We stayed one week in Perth enjoying our family living there. On 4 October, we took the road again for Bunbury and the Margaret River. We stayed at a sheep station (near the Margaret River township), where 5000 sheep were being shorn.

In Albany we visited the Princess Royal Fortress and the Military Museum where the first Australian troops assembled and departed for Gallipoli.

Further on we admired the pristine township of Esperance. The harbour is beautiful with its unspoilt bush land and beaches, probably much the same as when the first French pioneers found it.

Kalgoorlie was interesting too, especially the sister city of Boulder with remains of old buildings and shops still being repaired after the recent earthquake. The ambiance is still like it was back 100 years ago.

We attacked the Nullarbor Plain on 16 October, including the longest straight road in Australia, 146.60 km. The lookouts over the Bight were spectacular and we spotted whales in the distance.

Lesley VK5LOL has gained her DXCC certificate. Congratulations to Lesley on having made contact with 100 countries.

During this long drive we had many contacts including with Bill VK6NQK, and a Travellers Net relay via Brisbane through VK4WST.

After the Nullarbor, we rushed home, longing to sleep in a proper bed, our brain and eyes tired of coloured images and memories.

Finally we would like to thank all the helpful amateurs who kept us in contact through the Travellers Net with the rest of the world. With the assistance of the relays in one state or another we were always able to get messages through to the Net Controller.

News from VK5

Christine Taylor VK5CTY

Quite a number of ALARA members were at the AHARS Christmas dinner, including Joy VK5YJ and her daughter. The photo shows in the back row, Jeanne VK5JQ and Mya, in the middle row Lesley VK5LOL, Suzie VK5FSUE, Sue VK5AYL, Shirley VK5YL, and Christine VK5CTY. Seated we have Joy and her daughter Joylene who is also an operator. Joy has three daughters, two of whom have licences, also a son who is licensed as was her husband. Quite a radio family!

The VK5 ALARA Christmas group – details to the right.

News from VK4

For those of you who read in the March issue of *AR* magazine about the Sweers Tower Project and realized that, shortly after it was erected, Queensland was hit by a severe cyclone, the following should come as good news.

"Lyn VK4SWE is back on Sweers Island OC-227 after three weeks holiday. The island was spared by Cyclone Yasi, which dumped some rain but very little wind. Lyn and OM Tex had lowered the new tower and beam before leaving the island, due to the high risk of a cyclone at this time of year. Harold VK4ANR has constructed the 2-piece telescoping tower with an ingenious wind-down mechanism, which, when wound down and a locking pin is put in place, then converts to a tilt-over system on the same winch. The horizontal tower was lashed to a nearby tree and star picket, and Lyn removed all the trapped elements to reduce the effects of water getting into the trapped CP6 and the TH3JR donated by Col VK4CC. (And with heavy rain now lashing the Gulf and a Low causing blustery winds, it may be a week before Jack (as in beanstalk) and "Jim Beam" are wound back up! Meanwhile, the trusty little 'Guenthere' ground-mounted vertical built by Bill VK4FW is taking up the slack, being quick and easy to assemble, and working stations in the Pacific Islands, Papua New Guinea and Tasmania during yesterday's ANZA DX Net…)" **Lyn VK4SWE.**

The couple had originally planned an ideal holiday flying down to Sydney to visit friends then on to Flinders Island with the following week spent exploring Tasmania by campervan. With the approach of Cyclone Yasi their carefully laid plans went slightly awry.

Arriving in Cairns in the early stages of the storm, Lyn and her OM found their flight to Sydney had been cancelled. Their motel room was near ground level and seemed likely to flood. Cairns received about 160 mm of rain in a 24 hour period.

Friends managing a motel in Cooktown invited them to stay with them, so they hired a car and drove north.

The motel was catering for a large number of people stranded by the storm, all wanting food as the local eateries were all closed. Lyn and Tex undertook to help their friends to provide a service to the other travellers and were soon doing waitressing and bar duty. The following day was another harrowing trip back to Cairns in torrential rain with fallen trees blocking the roadways. They eventually arrived safely and discovered their flight to Sydney was confirmed. Even though it ran an hour late, they were happy to be finally underway.

Time spent in Sydney meeting with friends was most enjoyable, as was their time spent on beautiful Flinders Island and touring lovely Tasmania. They completed the reverse journey back to Sweers Island at the end of their holiday and considered themselves lucky to have arrived when they did as it started raining heavily that same night and continued on for some time, flooding the airstrip and putting it out of action for the time being.

It is likely this particular holiday will linger long in their memories.

VK3 News

Jean VK3VIP, our state representative had a good day out at the Kyneton hamfest. She manned an ALARA table assisted by Marlene ZL1MYL visiting from New Zealand. Heidi VK3FHID, and Catherine were also there. Jean managed to sign up a new member, and fielded quite a few inquiries. She also managed to sell some ALARA merchandise.

Marlene ZL1MYL & Jean VK3VIP at the ALARA table.

Since returning to New Zealand Marlene has been in contact with other radio operators there and the Red Cross and is volunteering to assist in reuniting people concerned about relatives/friends/others affected by the Christchurch earthquake.

Pat VK3OZ has been holidaying in New Zealand with her sponsor Sharon ZL3AE. She wishes to advise she is OK and home again and to say that Sharon ZL3AE and her OM are in Christchurch assisting with communications after the Christchurch earthquakes. They intend to spend time as relief radio operators in the Emergency Communications Centre. It is great to know that they are able to help.

There is still a place for amateur radio operators in the modern world!

VK2news

Tim Mills VK2ZTM
vk2ztm@wia.org.au

The **Orange and District ARC** have started celebrating their 50 years of amateur radio in Orange and the surrounding districts. Part of the celebrations is the operation of special callsign VI50AOA until the end of June. Check out details at *www.vi50aoa.org* Orange & DARC are now meeting at the Orange SES in McLachlan St., on the first Friday evening of the month. They had the first 2 metre repeater in the country – FRED – established a little before the rest – which had many years of very successful coverage from Mt. Canobolas. VK2RAO, when it obtained its licence, was first centred across 146 MHz and then on 6700. Being a popular mountain site, every other form of RF went there and in time FRED became deaf and channel 6700 in now retired as a local area service. VK2RAO has changed channel on the mountain to 7025 [+600] and has a companion on 70 cm, 8725. EchoLink had recently been added.

Next month the **St. George ARS** will be celebrating their 40 years of existence. There will be a dinner on Wednesday 4 May at the South Hurstville RSL Club and details can be checked at *www.sgars.org* Their VK2RLE 6800 repeater remains out of operation due to difficulties in site access and their Thursday night net is on the Mt. Bindo 6650 repeater at 2000 hours. Their 70 cm VK2RLE 8425 at Heathcote recently came to life after a long hibernation and was in low power mode in early March.

The annual **Urunga Convention** will be conducted on the NSW North Coast over Saturday and Sunday of the Easter weekend. It is two months until the annual **Oxley Region ARC** Field Day on the June Long Weekend in Port Macquarie. Other events in town over the weekend makes accommodation at a premium, so book now if required. Next October the Club will be celebrating 40 years since their formation. See *www.orarc.org* At their exams in February all four candidates gained their Foundation qualifications. The **Riverina** field day is scheduled to be held at Lavington on Sunday 31 July.

The **Blue Mts ARC** is in the process of changing their meeting venue. **Hornbsy & District ARC** will be operating in the International Marconi Day on the UTC day of Saturday 30 April. Watch for VK2IMD. They have exams planned soon. Check with Tony VK2BTL 02 9487 3383 or the web site *www.hadarc.org.au*

Summerland ARC held their AGM on 20 February with Leith VK2EA as Returning Officer. Outgoing President Ross VK2ARD welcomed 27 members and the election resulted in Ross VK2ARD continuing as President. Rob VK2ELH is Vice President, David VK2HFK as Secretary and John VK2JWA as Treasurer. No one was cornered for Publicity Officer and Ron VK2AJD and Chris VK2ACD make up the committee positions. Next month they will have Standard exams on the weekends of 14 & 15 and 21 & 22 May. SARCFEST will be on Sunday 7 August.

Fishers Ghost ARC held their AGM on February 23. A few positions are still to be worked out. **Waverley ARS** operated in the John Moyle contest from the Cataract Park Scout Camp. They have exams assessments planned for the weekend 14 & 15 May. Contact *education@vk2bv.org*, the web site *vk2bv.org* or Simon VK2UA 02 9328 7141. July – during the school holidays - will be their annual auction. The **Hunter Radio Group** also had a field operation in the John Moyle contest. The **Central Coast ARC** has their club rooms in Dandaloo St., Kariong. They have meetings on the first and third Friday evenings. Rooms also open on Saturday mornings and a project and development group on Tuesday evening. Call 02 4340 2500 or the web site *www.ccarc.org.au*

Manly Warringah RS meets each Wednesday evening at Terry Hills and has recently been visited by Kjell Karlsen LA2NI who gave them a lecture on his SDR transceiver as well as details of Apollo and Hermes projects. Check out *www.mwrs.org.au*

The last Sunday in February was the annual **Central Coast Hamfest** at the Wyong racecourse. The arrivals started at first light and were soon scouring the Flea market stands. Having checked them out, the early birds awaited the opening of the Trader's section. The day started fine and warm but soon a cloud cover kept the temperature down and there were, at intervals, a few spots of rain. Since last year, work had commenced on a new entry gate and parking improvements, so a temporary entry had to be negotiated. Due to layout changes is was a bit hard to judge compared to previous years but seemed to be similar attendance with both the flea market and trader's area using all the available space. By midday the crowd had thinned out, a trend with a lot of events these days. The WIA attended, as usual, with a wide range of publications and signed up many new members – a very popular stand. ARNSW conducted exams for the fourth year, with five successful candidates from five starters.

There are either some inactive clubs or they do not seek publicity. They can always make use of the VK2WI News facilities by an email to *news@arnsw.org.au* It is also time to remind clubs and groups, now that most AGMs are over, to send in any changes of their details to the WIA and ARNSW web sites of Radio Clubs entries. Check out the sites for contact details. The annual Callbook uses the WIA listing.

ARNSW (with its parent company - the WIA NSW Division) will be holding its AGM at 63 Quarry Road Dural on Saturday 16 April 2011at 10 am. A training course for all licence grades commenced early March at the Dural site. It is being conducted by Terry VK2UX, held on a Monday evening and will continue for about six months. The second half of the VK2 Emergency Communications Training course will be held at the Dural site over the weekend 9 and 10 April. There are twenty taking part from Sydney, Newcastle and Canberra.

As previously mentioned in these notes, **ARNSW** welcomes donations of surplus equipment and also provides a service for handling Deceased Estates. The details are to found on the ARNSW web site *www.arnsw.org.au* under two headings - Deceased Estates and Disposals. It should be noted that save any confusion there is only one authorised point of contact and that is either via email: *disposals@arnsw.org.au* or the office telephone 02 9651 1490. There are no other persons authorised to act on behalf of this service.

The 23 cm Sydney based beacon VK2RSY (1296.420 MHz) was copied across the 'pond' by Brian ZL1AVZ on 30 January 2011. Reports on this or any of the VK2RSY beacons can be emailed to *callbacks@arnsw.org.au*

73 Tim VK2ZTM

Over to you

Sir…

While the motive of engaging the radio clubs in Federal WIA politics has merit and commendable, one must question the value of selecting Darwin as a venue irrespective of the worth to that community.

Doing a bit of a calculation, getting from Melbourne to Darwin and return by air, accommodation and WIA registration and the extras would set a chap with partner back about $2000 for three day stand.

Encouraging interest in WIA affairs and being nice to interstate societies is all very well, but I would think that anyone with tourist aspirations pick some other time when they are free to engage in their own itinerary: of course there are probably some political animals willing to face the cost but rank and file might well consider money and time to be spent elsewhere. Not all amateurs with WIA interest are well heeled ex Toorak or Rose Bay.

Other attractive venues offer stimulating environment – why not Lord Howe Island: somewhat closer to major amateur population?

In any event, one would have thought that if attracting interest in WIA policy was the objective, a more central lower visiting cost geographical area be established and made standard as the venue for AGM.

Sincerely

Pete Williams VK3IZ

Hamads

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Contact Ken Morgan VK3CEK on 95929957 or *ken3@iprimus.com.au*

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The installations may be viewed at 20a Sussex St. Brighton by arrangement with Ken Morgan VK3CEK on 95929957.

WANTED – VIC

AWA transceiver, model RT85, low band, 70 – 85 MHz, Type 1LM82271 or similar. Needed for use in club repeater project on 6 metres. Modified or unmodified.
Please email Albert VK3BQO at *vk3bqo@wia.org.au*

Yaesu two metre all mode transceiver, type FT-290RII, with PA type FL-2025, and tone unit type FTS-7, or any of the above units.
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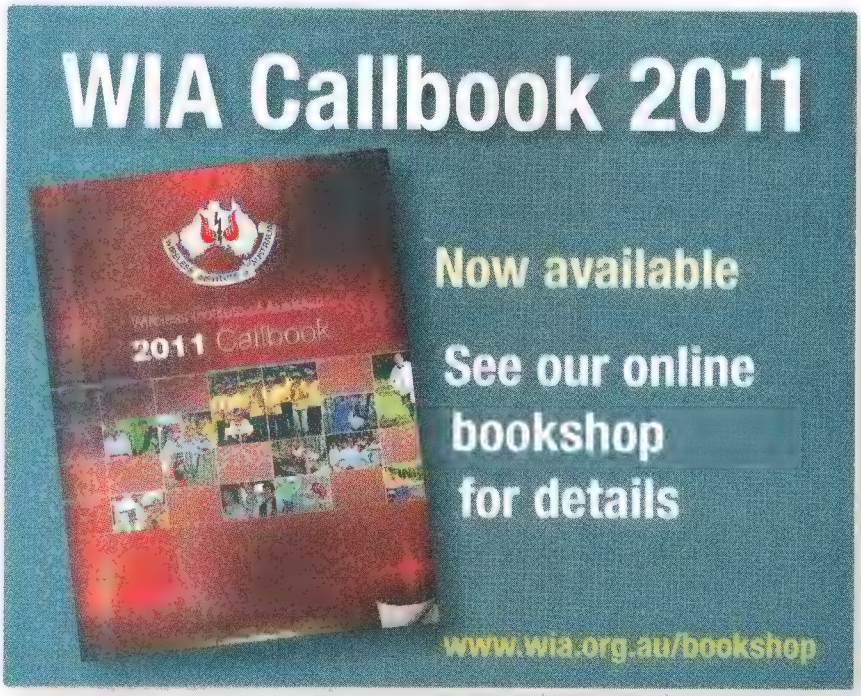

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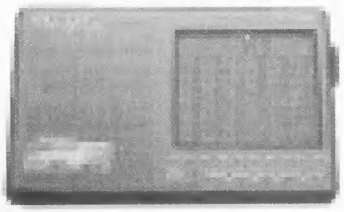

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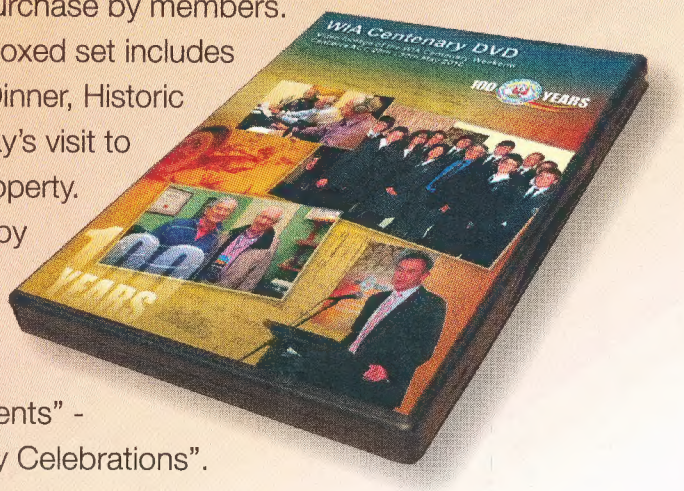

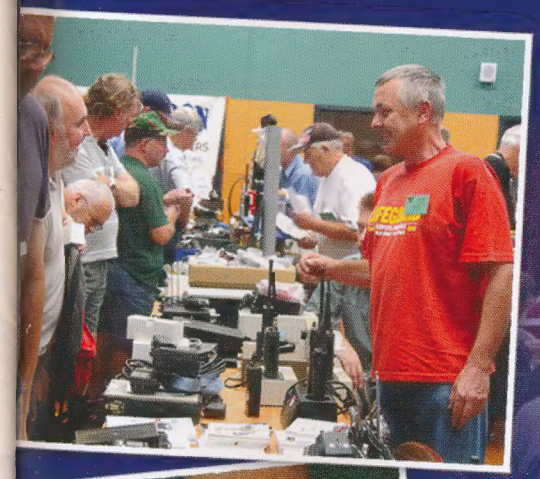

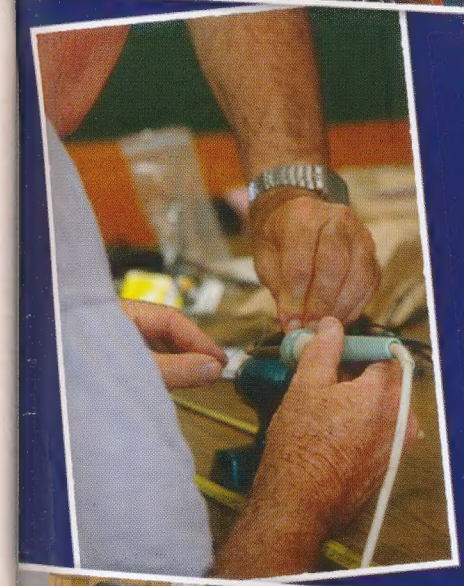

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